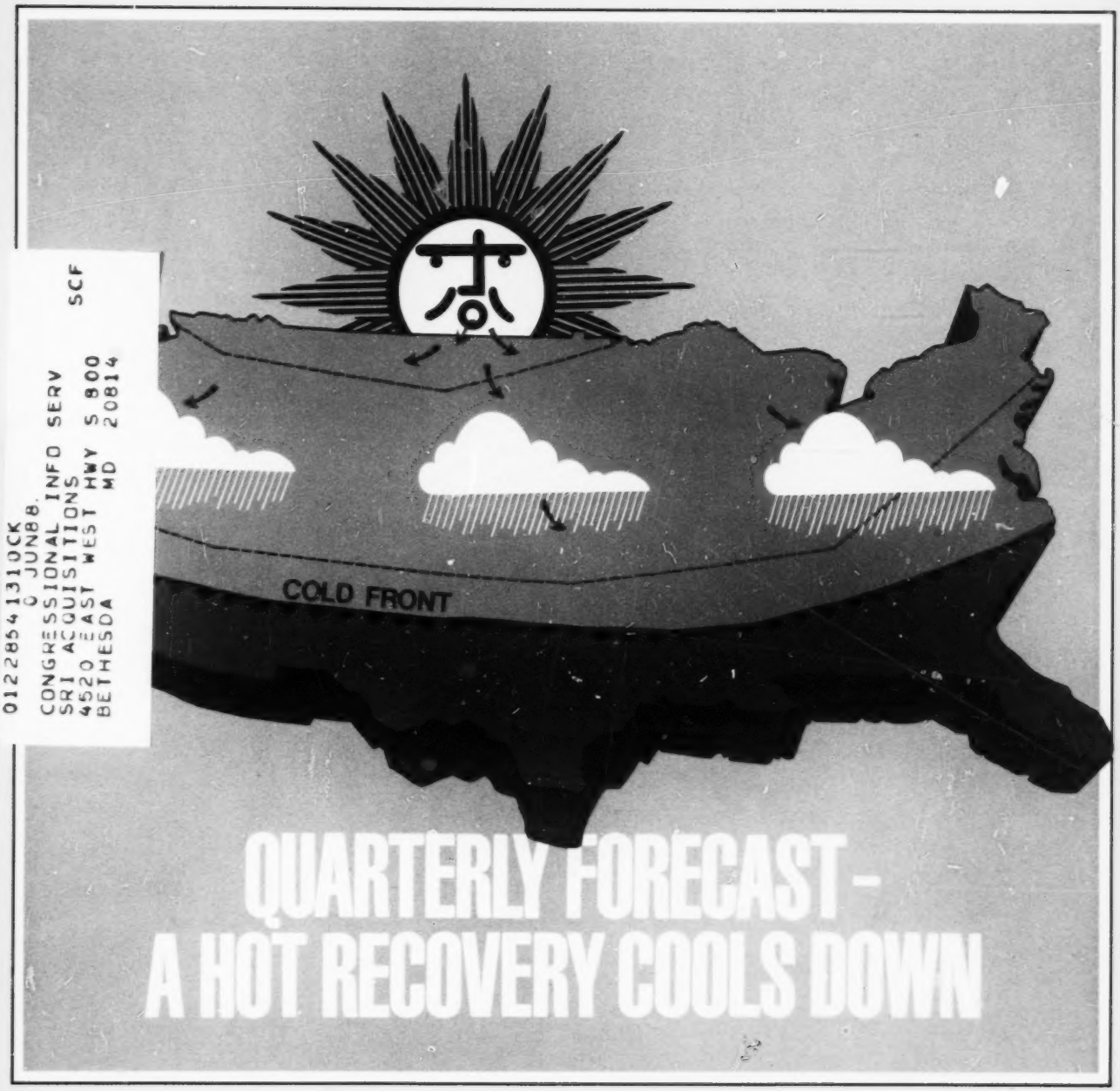
- C2150-2

CHILTON'S

IRON AGE

METALS PRODUCER

July 2, 1984



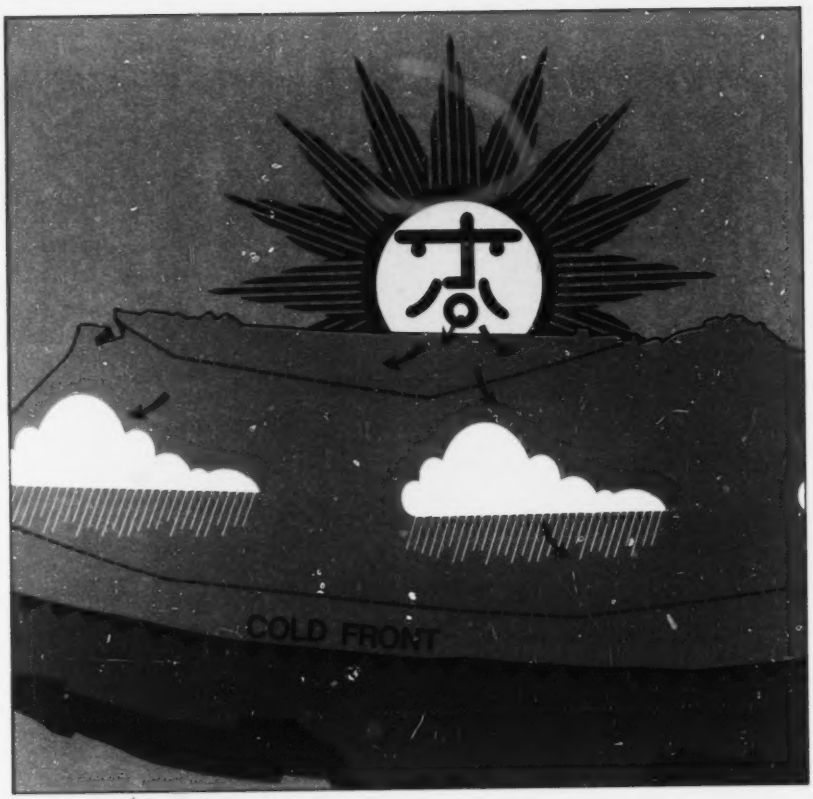
012285413108CK
06 JUN84
CONGRESSIONAL INFO SERV SCF
SRI ACQUISITIONS
4520 EAST WEST HWY S 800
BETHESDA MD 20814

QUARTERLY FORECAST - A HOT RECOVERY COOLS DOWN

STEEL LICKS THE POLLUTION PROBLEM... FOR NOW
PLUS THE HOT SPOT

JULY 2, 1984 VOL. 227, NO. 13

IRON AGE METALS PRODUCER



Departments

EDITORIAL STAFF	8
SIGNED, SEALED AND DELIVERED	11
INDUSTRIAL BRIEFS	20
PRODUCT & EQUIPMENT REVIEW	64
AD INDEX	66
MANAGEMENT SERVICE CARD	67
P&P DATA 6/18	70
FERROUS SCRAP 6/18	71
STEEL PRICES	72
STEEL PRICES	73
CLEARING HOUSE	74

Editorial 7
O'er the ramparts we watched . . . and watched.

Newswatch 13
Alcan's purchase of Arco Aluminum runs into a hurdle.

The Hot Spot 23
Protectionism hurts, too!

Third Quarter Forecast 28
The recovery's current cooling will prevent burnout.

Pollution Control 56
No indications the laws will relax in the 1980s.

Trade Adjustment Assistance 61
It's a beacon of hope for many unemployed workers.

Materials Report 65
Steel producers revise their estimates for 1984.

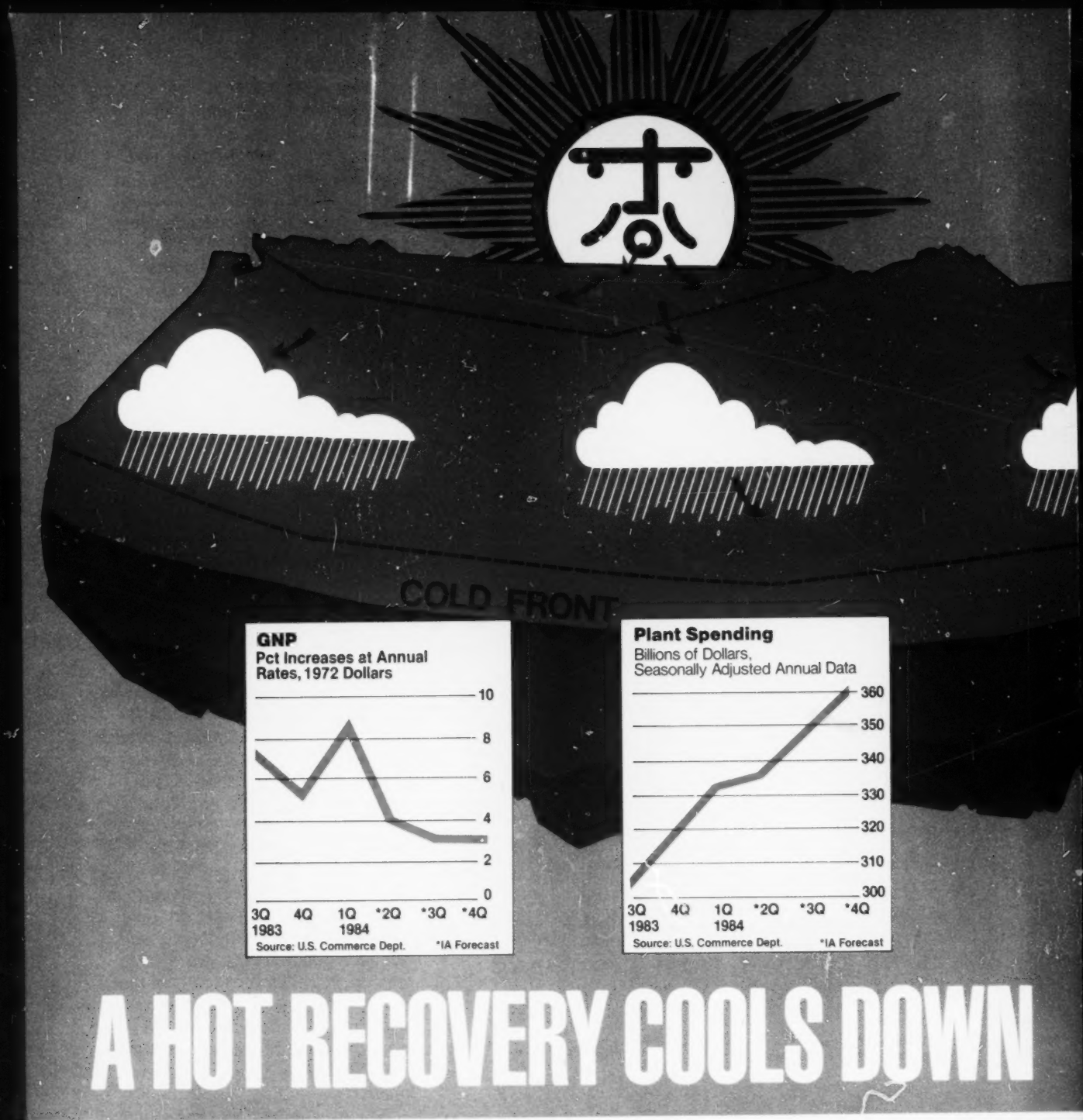
Price Trends 76
Prices on an even keel in May.

Next Issue: World Continuous Casting Report.

IRON AGE (ISSN 0164-5137) is published 24 times a year by CHILTON COMPANY, Chilton Way, Radnor, PA 19089. Chilton Co. is a division of American Broadcasting Companies, Inc., New York, N.Y. Second Class Postage Paid at Wayne, PA 19087 and additional mailing offices. IRON AGE is sent on a controlled free basis to qualified managers in U.S. metalworking companies. Non-metalworking companies, services, government, institutions, schools and colleges, $42 one year. Canada, $42 year. Foreign, $69 one year. Single copies, $2.50. Cable Chilton Philadelphia.
Send address changes to IRON AGE, P.O. Box 1440, Riverton, N.J. 08077.

ONE OF THE ABC PUBLISHING COMPANIES

Chilton



A HOT RECOVERY COOLS DOWN

JOHN D. BAXTER

The U.S. business recovery is in a cooling phase.

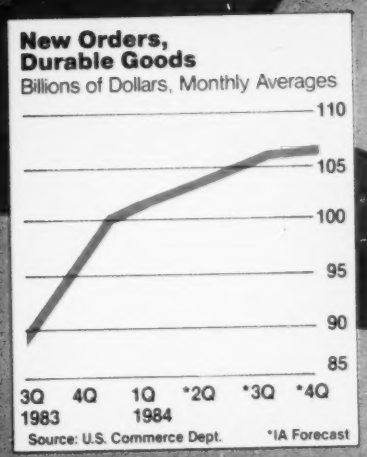
And it's a good thing it is. The way things were going, there was danger of an early burnout.

A burnout could mean an earlier-than-expected demise of the recovery. That would leave a lot of corporate latecomers to the recovery with still-languishing order books—and that includes many metalworking companies in the capital goods lines.

The recovery burnout wouldn't come because the economy was being pressed to its limits. After all, despite recent big gains posted on the GNP scoreboard, unemployment is still running at a near-8 pct level, and U.S. mills, mines and utilities are operating at only about 82 pct of capacity.

The burnout, rather, could come because of the possible buildup of excesses or imbalances in the economy. A case in point is seen in recent doings in inventories. These swung from a $15.4 billion annual rate liquidation in the first quarter last year, to a $26.6 billion buildup in the opening period this year.

The clearest evidence of cooling in the economy is seen in the recent trend in final sales. The measure, final sales, represents GNP, or total output of the economy, less changes in business inventories. In other words, final sales represent goods actually sold and delivered to users, not those goods produced but piled up on shipping platforms.



Although the recovery seems to be cooling there remains quite a bit of sunshine out there for business. The likelihood of a deep freeze in the economy is remote in '84.

In the second quarter 1983, final sales, at a constant dollar annual rate, rose 6.8 pct. Then followed gains of 5.1 pct in third quarter, 3.7 pct in the closing period and 3.6 pct in the March period this year. Contrast these numbers with much hotter GNP increases of 9.7 pct, 7.6 pct, 5.0 pct and 8.8 pct.

It is simply a weakness of GNP as a measuring device for the economy, that inventory increases are counted as a plus factor. An inventory buildup can be bad news. This is so when stock building is involuntary on the part of business, when it has a lot of goods to sell and can't move them.

Many metalworking industry executives who watched the posting of the four most recent quarterly rises in GNP have openly wondered where all the business was going; they didn't see it happening to that extent on their own order books. After all, those quarterly GNP rise figures were of 'boom' strength. The secret is explained by bulging stocks that bulged GNP data.

Final sales, then, of late, have been a more accurate measure of economic growth than GNP. And sales show the recovery moderating, but continuing.

There is another little 'deception' going on that obscures the true strength and the nature of the recovery. This is seen in data on capital investment by business, another factor critical to metalworking industries.

The GNP scoreboard, over the past three quarters, including the opening one this year, shows growth in business fixed investment far outstripping growth of the overall economy.

In the third quarter last year, when GNP rose at a 7.6 pct real annual clip, business investment rose by almost 19 pct. And in the closing period, when GNP expanded by a 5.0 pct rate, business capital investment rose by better than 27 pct. Finally, in the first period this year, when the overall economy grew at an 8.8 pct rate, business investment grew at a near 17 pct rate.

All that implies that this country has just gone through three quarters of an out-and-out capital spending boom.

A look at three factors helps clear up the seeming illusion of the capital spending 'boom.'

First, capital investment in the last recession was hit harder than just about any other element in the economy. So, its gains now are, in a sense, magnified relative to past levels.

Too, plant spending has, as always in recovery phases, lagged. Most of the other elements of the economy have been growing since the start of the recovery 20 months ago. The measures of these elements are now moderate — certainly as compared to the rise-from-the-cellar gains of capital investment.

A second factor that explains the boomless boom in plant spending is the lopsided nature of it. Economist Joan D. Schneider of Continental Bank has noted that, "More than 55 pct of spending for equipment so far during the recovery has been concentrated in autos, trucks and computers."

Ms. Schneider also pointed to "rapid expansion of the service sector" as a magnet for much capital spending. "In contrast," she said, "investment in metalworking and heavy industrial machinery has remained subdued."

This strong trend of a changing 'mix' in capital spending has been going on for years and has reached a point where the big numbers on capital goods spending can leave old-line plant managers wondering what's going on.

The third factor that helps explain the puzzle of the recent capital spending 'boom' is seen in the growth of imports of capital goods.

One recent report indicated that in 1970, capital goods imports amounted to $4 billion. In 1983, such imports amounted to $40 billion. Imports are said to now account for 18 pct of the U.S. capital goods market.

If this recovery lasts long enough, then the order books of just about all capital goods producers will be full.

And that 'duration' possibility is the crux of the matter in the view of most business forecasters right now. The vital question: Can the economic recovery reach maturity?

Very few economists are now saying the business recovery is about to end.

Also, at this time, there are few, if any, leading measures of the economy that are throwing off negative numbers for more than one month at a time. It is chiefly a matter of slowing rates of gain. A 4 pct growth rate for the economy is the consensus forecast for 1984.

If there is a trap-door in place under the recovery, it is in interest rates. If that door is sprung by higher rates, then the recovery could go 'swoosh.'

That's not as neat and surefire a premise as it seems. After all, who would ever have thought the U.S. economy could score real GNP quarterly annual rate growth gains of 9.7 pct, 8.8 pct and 7.6 pct within a year's span when interest rates were running at double-digit levels?

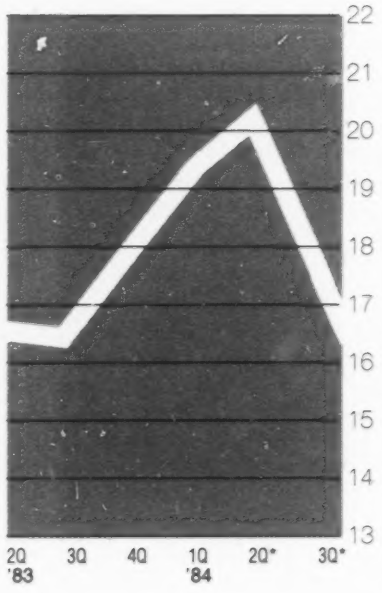
Probably the best that can be said about interest rates is that even if they rise sharply between now and the end of the year, the recovery has enough 'roll' to ride through the year.

In sum, this year looks to be safely in the bag. And the chances of an economic recovery beyond that are at least promising in view of the across-the-board capital spending programs now building up a head of steam. That's the stuff of sustained economic recoveries.

STEEL

With the national economy supposedly booming, the steel market has gone into another nosedive.

Steel Shipments
Millions of Tons



Source AISI *1A estimate

Something has to be very wrong.

With the national economy supposedly booming, the steel market has gone into another nosedive.

Either the economy is less robust than it appears, the steel lag is less severe than it appears or it is now possible to have a steel recession in the middle of general prosperity.

The steel market is clearly receding. By late June, raw steel output had fallen 10 pct to less than 70 pct of capacity. Steel shipments are expected to fall by at least 10 pct in July and no pickup is indicated for August.

The steel dive coincided with a government estimate that the nation's output rose another 5.7 pct in the second quarter (annual rate). That was on top of a 9.7 pct rise in the first quarter. The sharp gains brought warnings that the economy might be overheating.

In this setting, the rapid cooling of the steel market was puzzling and demoralizing. After losing $6 billion in the last two years, the steel industry had barely moved into the black in the first quarter. There were hopes that prices and operating rates would rise to respectable levels in the final three quarters of the year.

The second quarter was pretty much in line with estimates. Shipments of about 20 million tons compared with 19.4 million in the first quarter. Mill officials expected some significant price relief at the start of the third quarter.

By June, however, it was clear the summer quarter was going to be a dud. The sheet market, which had been the one strong area, was hit by inventory cutting. The service centers were making particularly deep cuts.

In other markets, there just had never been a real recovery. Capital spending was supposed to increase by nearly 15 pct in 1984, but demand for plates and structurals was still lagging. Also lagging was demand for the merchant bars and medium sections that go into commercial and public construction. The mini-mills reported flat demand.

One cause of the stalled market was foreign trade. More than 8 million tons of steel were imported in the first four months of 1984. Domestic industry members looked for the foreign flow to slacken, but steel imports for the year likely will be at least 22 million tons.

That was 4 million tons more than domestic mills had predicted earlier. Accordingly, estimates of domestic shipments were being lowered by that amount, with the entire deduction to come in the second half.

It's possible the loss to imports will be greater than is now anticipated. President Reagan is due to act by Sept. 24 on the injury complaint of Bethlehem Steel Corp. and United Steelworkers of America. Mr. Reagan could impose quotas. That possibility gives foreign producers an incentive to maintain heavy shipments through the summer.

None of this really explains why the steel market has suddenly run out of gas. Steel users added about 4 million tons of inventory in the first half. That isn't very much for a recovery, particularly since more than 10 million tons of inventory were liquidated in 1982.

One problem is that the recovery started from a very low point. The recession of 1982 was the worst since the 1930s. The recovery from the recession has been fairly sluggish. Going into 1984, the net rise in real national output since the start of 1982 was only 1.5 pct. Despite the flashy growth figures of recent quarters, the economy is still in a semi-depressed state.

And growth rates notwithstanding, an economic slowdown may now be underway. The recovery has been powered by consumer markets. Both the housing and auto markets are being zapped by high interest rates.

Another factor is permanent shrinkage of the steel market. For a given level of the economy, the market is probably 10 million tons smaller than it was five years ago.

NONFERROUS

Signs that the business recovery was being nudged into a lower gear by concerns over interest rates and a measure of breath-catching brought a softer tone to nonferrous metals as the second quarter drew to a close.

Free market aluminum prices softened as inventories moved upward at the producer and hedge market levels. Copper prices remained in the doldrums for want of any speculative interest on the part of traders. The price of lead moved up largely on fears of supply stringencies in the months ahead because of current and possible labor problems at U.S. mines.

There still was plenty of good news on the economic front, with U.S. car production running about 30 pct ahead of last year and consumers still buying. The National Association of Purchasing Management reported that production and new business bookings were on the rise, albeit at a slower rate, and that purchasing managers were adding to inventories of production materials.

Incoming orders booked by the aluminum companies during most of the second quarter were down from unusually high first quarter levels, but the producers still project gains of from 9 to 11 pct for the year as a whole—to 7.2 million to 7.5 million tons. The industry got off to a flying start with a 26.3 pct jump in shipments in the first quarter. Deliveries in the second quarter are expected to be down, reflecting both the lower rate of incoming orders after mid-March and the need to leave room for the anticipated stronger showing in the second half.

The increase in deliveries was accompanied by an increase in producer stocks, however, and the resulting softness in free market ingot prices leaves the producers with less room for maneuver in the mill products market.

Forward aluminum on the London Metal Exchange slipped under 60¢ a lb again early in June. Some industry analysts still see the North American ingot price moving toward closing the gap with the 81¢ a lb published price later this year, largely on anticipation of an upturn in industry shipments in the second half and some catching-up in aluminum markets abroad.

The copper producers, who are having their own problems with government-controlled overseas production, aren't having much luck in the pricing department either. Shipments by U.S. producers are up from last year and so is domestic consumption. But imports are up as well and hedge market inventories haven't come down to levels that will draw speculative/trader interest.

There have been some faint signs of pickup in the capital goods sector—the missing ingredient in copper's pie—but the copper producers still have the slow July vacation period at the brass and wire mills to get through.

The International Trade Commission approved the U.S. copper producers' Section 201 petition on June 14 and is scheduled to provide President Reagan with its report on July 9, after which the President has 60 days to accept, reject or modify its recommendations. Imports of refined copper—and copper and brass mill products—were still rising through the first quarter of 1984.

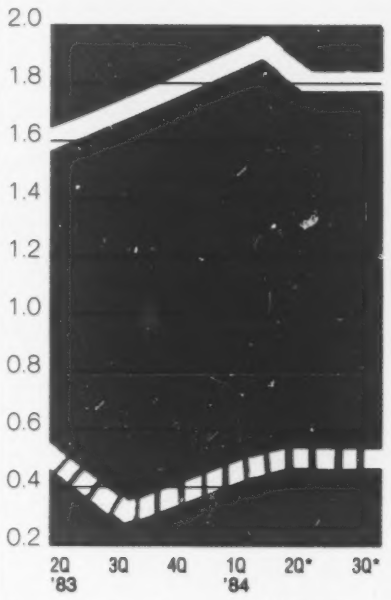
The slow pace of capital goods markets continues to limit recovery for nickel and molybdenum. Zinc stocks at the producer level remain tight and shipments through the first third of 1984 were about on par with 1983 levels. Higher car production remains a mainstay, as does the zinc penny.

Lead shipments were running about 18 pct under the 1983 pace and producers' stocks moved up sharply in the first third of the year. Although demand for lead from the battery makers is seasonally slack, prices took on a firmer tone toward mid-June because of strike-caused production losses. The producers carried a two-month supply into May, based on average shipping for the first four months of the year.

. . . the (aluminum) producers still project gains of from 9 to 11 pct for the year as a whole.

Nonferrous Metals Shipments

Millions of Short Tons



Source: American Bureau of Metal Statistics, Aluminum Assn. — Aluminum; - - - Copper

*IA estimate

AUTOMOTIVE

U.S. automakers likely will sell 2 million cars in the third quarter. That's 200,000 fewer than they sold in the second quarter of 1984 but 400,000 more than they sold in the third quarter of 1983. Car sales usually are higher in the second than in the third quarter.

The 2.2 million cars sold in the second quarter exceeded the expectations of most auto executives and analysts. Sales of domestic cars in the first half exceeded those in the first half of 1983 by about 800,000 units, up 24 pct.

The auto industry presently is working at nearly 100 pct capacity; many plants are running overtime.

Sales of some of the more popular models were constrained by capacity in the second quarter. "I also expect to see sales constrained by capacity in the third quarter," said one auto analyst.

"Sales in May," said the analyst for another automaker, "were the third best figure ever for that month. Cars sold at an annual rate of 8.6 million.

"But the U.S. auto industry can build only 8.1 or, if squeezed, 8.4 million cars in a year. We can't maintain the 8.6 million annual rate of May.

"In the third quarter, we can't build at an annual rate of much more than 8 or 8.2 million."

The United Autoworkers (UAW) began talks with GM and Ford in July to negotiate a new labor contract. The present contract expires Sept. 14.

The big profits and executive bonuses at the Big 2 likely will result in UAW demands for hefty wage increases. A strike is possible. GM would be the likely target, said one UAW vice president.

The booming sales and the possibility of a strike are two good reasons for the automakers to add production capacity. They lack the excess production capacity now to build up a supply that would cushion dealers against a strike-caused shortage of cars.

Dealers had 1.5 million cars, a 48-day supply, in the middle of June. That's the lowest dealer inventory in ten years. By the end of the third quarter, they should have a 57-day supply, still less than the normal 60-day supply.

The low inventories mean that dealers would quickly be hurt by a strike.

A strike at GM and/or Ford would severely curtail production at American Motors and, to a lesser degree, Chrysler. Both AMC and Chrysler buy many parts from the Big 2.

Still, the automakers are unlikely to add production capacity for two reasons, said one auto analyst:

—"We're near the peak of an economic cycle. It's four to six months away, or we've already hit it." Expecting sales to slow after the cycle peaks, automakers don't want to repeat the excessive capacity and massive layoffs of 1981-82.

—"The restrictions on Japanese imports," said the analyst, "probably will end in April 1985. Or the Japanese will be permitted a 10-pct increase in exports to the U.S. under the voluntary restraint agreement (V.R.A.). Either way, I expect a 10-pct increase in sales of Japanese cars here."

Interest rates continue to play a major role in consumers' decisions whether and when to buy a car. The high sales in the second quarter are partly due to consumers' expectations that interest rates will rise later this year.

Analysts at two automakers are forecasting that interest rates will rise by about 1½ pct during the second half.

"An increase of 1 pct," said one analyst, "raises the average monthly car payment just $4. So interest rates shouldn't have that big an effect on car sales. But they do—because of the way they affect consumers' perceptions."

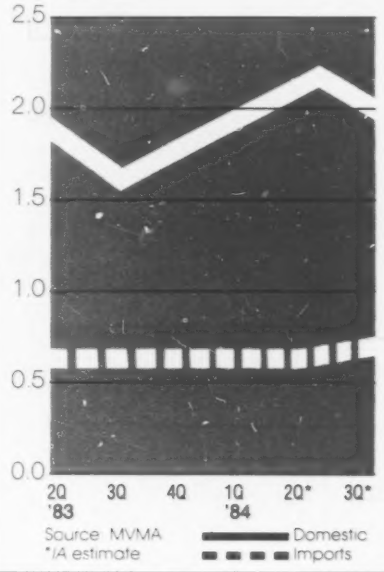
If rising interest rates hurt car sales, automakers probably will offer lower rates through their financial divisions.

Auto analysts expect car sales for all of 1984 to total about 8.1 million domestic and 2.6 million import units. The 8.1 million domestic sales would exceed last year's total by 1.3 million.

The auto industry presently is working at nearly 100 pct capacity; many plants are running overtime.

Automotive, Sales

Millions of Units



MACHINE TOOLS; FLUID POWER

MACHINE TOOLS—If patience is really a virtue, then the machine tool industry is headed for canonization.

The nation's economic recession has been "officially" over for 1 onths, but order books in the industry have yet to reflect official good news.

The order facts as presented by individual builders are only moderately up from the lows of the past three years.

"We can say business is better, even much better than it was compared to the worst couple years I can remember," says one industry executive.

Machine tool builders remember $5 billion years. This year is shaping up to be perhaps half that—and adjusted for inflation, less than half.

"Machine tools, in general, are what most companies call expensive purchases," explains another builder. "The leading edge of the industry, such as FMS equipment, is very expensive. We don't expect our major customers to make major machinery moves until they're completely convinced that sensibility will really rule for a long time in the U.S. when it comes to interest rates and the deficit."

Others in the industry note that even if fiscal and monetary policy in the U.S. became downright stingy, machine tool builders would still be up against foreign competition that can price American companies out of the market.

"Until there's some action on 232, I don't believe anyone in this industry will feel certain about anything," says one analyst.

The industry's petition remains waiting in Washington for the President's nod one way or another.

Some industry sources are predicting "half-a-loaf" with certain defense-oriented product lines being given relief and others none.

Meanwhile, machine tool builders are enjoying an increase in business even though at present rates of growth it will be a year or more before 1979 levels are reached.

FLUID POWER—The tremor that ran through a number of industrial markets in April hit fluid power equipment manufacturers as well. But even allowing for that downward wobble, this industry has seen a banner recovery in 1984.

Hydraulics had further to go in making its comeback than pneumatics, but turned in some astronomical gains over 1983 through the first quarter and much of the second quarter, data from the National Fluid Power Association (NFPA) survey of its members showed.

Hydraulics orders were 50 pct or more above the opening months of last year. Even April, when the downward hitch occurred, was almost 50 pct over the year ago period. Pneumatics, which did not drop as much in 1983 as hydraulics, scored a 60 pct gain in January (over the year-ago month) but the pace slowed the following month.

Averaged together, the two branches of fluid power have posted a gain of nearly 50 pct per month above the year ago period for the first five months of this year.

Reports from a recent NFPA meeting suggest a strong optimism. The April hesitation didn't hit everybody. And even those who did see things fall back a little in April are back on strong reports for May and June.

The summer decline is an annual event and despite the strength of 1984 to this point, most marketers expect it to take down sales in July and August. But they also are expecting a good recovery rate by September.

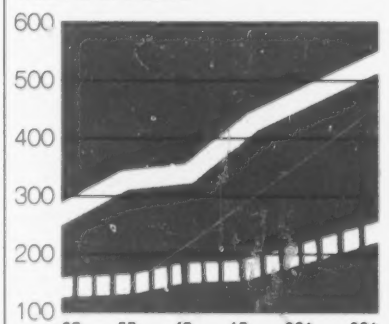
The pace is still hot enough, even as summer approaches, that a few price increases were again being tested out in the marketplace. Customer reaction was not warm, but the price gains seemed to be holding.

Earlier this year, some industry members predicted a better export business. The foreign market is better, but mainly for U.S. builders who can supply foreign markets from off-shore bases.

(Machine tool orders) are moderately up from the lows of the past three years.

Machine Tools, Net New Orders

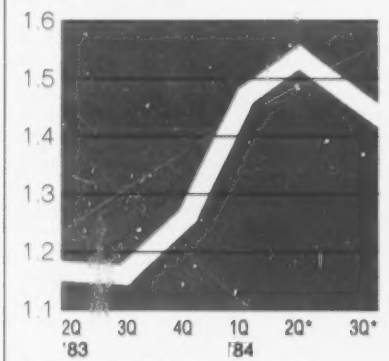
Millions of Dollars



Source: NMTBA
*IA estimate

Fluid Power, Shipments

Billions of Dollars



Source: Dept. of Commerce and NFPA
*IA estimate

INDUSTRIAL COATINGS; PLASTICS

COATINGS—After excellent sales in the first half of 1984, makers of industrial coatings expect a gradual downturn in sales during the second half. Shipments likely will drop from 98 million gallons in the second quarter to 90 million in the third.

"We may not be a bellwether industry," said the vice president of one major Indiana firm, "but we're a very good signal flag. And we expect a gradual winding down of consumer buying.

"Most metal markets will flatten out. Autos, homes, industrial and office buildings will be flat."

Shipments in the first half of 1984 were better than for several years. But April saw a big drop in sales. They recovered in May but fell again in June. June and July traditionally are slow months, though sales usually pick up in late August and September.

Some markets could continue to grow in the third quarter. Coil coaters, for example, expect sales for pre-engineered buildings to continue the upturn of the first half. Such sales in the first half of 1984 were up 10 pct over those in the first half of 1983, said a manager of a major Midwest firm.

Another vice president, however, expects sales of the coil coaters to drop in the third quarter.

At least one major coil coater is finding new markets with a new coating for pre-engineered buildings and a weldable primer for farm equipment. Coil coaters also are steadily increasing sales to appliance makers.

In the mobile-home market, Japanese steelmakers are winning market share from American aluminum firms with a new thin galvanized steel that's sold both coated and uncoated. Coil coaters are coating some of the Japanese steel.

The rise in raw-materials prices will continue to raise the price of coatings in the second half. The prices of titanium oxide and the nitrocellulose lacquer resin already have jumped by 10 pct.

PLASTICS—The plastics industry came off a banner year in 1983 with slightly more than 37 billion lbs in production and in sales and captive use.

The boom has continued into 1984. In the first quarter, for example, production moved up by 16.2 pct over the same period in 1983. In sales and captive use, plastics increased by 12.7 pct for the same period.

Business is still booming with a second quarter about 4.5 pct ahead of the first quarter. Industry sources expect the third quarter to remain about at the same level as the second quarter. Overall, the prediction of an annual improvement of from 6 to 8 pct still looks very feasible.

Among the types of plastics that are familiar to metalworking, the phenolics are moving especially well. Phenolics are used in coated and bonded abrasives, foundry and shell molding, and insulation materials.

Perhaps more familiar to metalworking are the reinforced plastics/composites. This industry is looking for a 2 billion lb year. The forecast is for record shipments of 2.155 billion lbs this year, an increase of 12 pct over the poundage estimate in 1983. The previous high was 2.046 billion lbs in 1979.

The prediction is that construction will move up 6 pct to 422 million lbs and electrical/electronics will increase by 11 pct to 189 million lbs. (Both of these industries registered previous highs of 335 million and 180 million lbs, respectively, in 1979.)

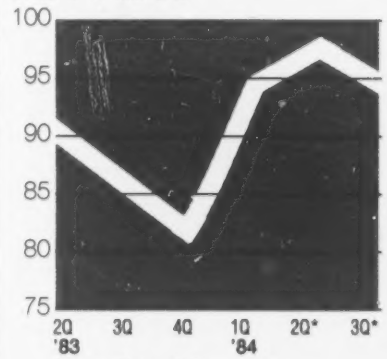
Corrosion-resistant applications for reinforced plastics will increase 11 pct to 320 million lbs and consumer products will move up 12 pct to 143 million lbs.

Other markets with very good growth forecasts include aircraft/aerospace/military, 29 million lbs (up 16 pct); appliances/business equipment (up 16 pct); marine, 309 million lbs (up 12 pct); and land transportation, 540 million lbs (up 18 pct).

Coil coaters expect sales for pre-engineered buildings to continue the upturn of the first half.

Industrial Coatings, Shipments

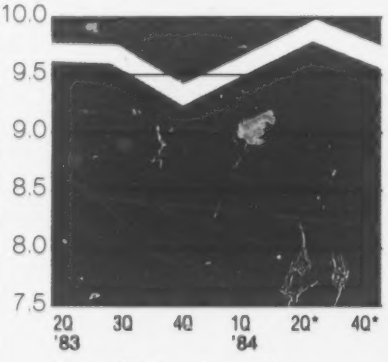
Millions of Gallons



Source: Dept. of Commerce
*IA estimate

Plastic Resins, Sales & Captive Use

Billions of Lbs

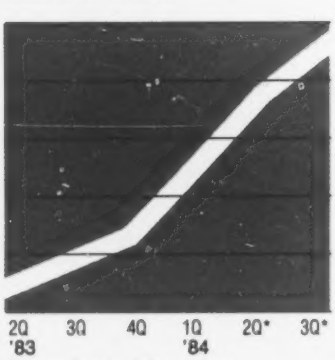


Source: SPI Committee on Resin Statistics, compiled by Ernst & Whinney
*IA estimate

COMPUTERS; INSTRUMENTS & CONTROLS

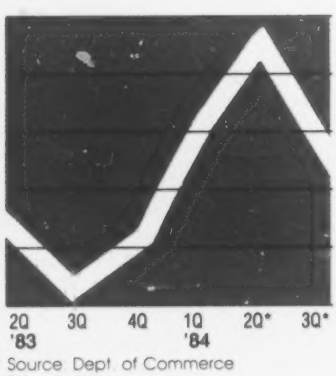
The export market for computers should grow even faster than home markets in the third quarter.

Computers, Shipments
Billions of Dollars



Source: Dept. of Commerce
*IA estimate

Instruments & Controls, Shipments
Billions of Dollars



Source: Dept. of Commerce
*IA estimate

COMPUTERS—The computer industry continues to move in the fast lane. At midyear, shipments are running 16 pct above comparable 1983 figures, while new orders are 28 pct ahead of last year's pace.

Forecasters believe industry shipments for the year will be up 18 pct above 1983 totals, as third and fourth quarter orders subside slightly after a strong first half. The fear is that rising interest rates will dampen domestic sales in the final two quarters.

The export market for computers should grow even faster than home markets in the third quarter. As European countries shake off the lingering effects of recession, U.S. computer exports should increase more than 20 pct, with much of that increase coming in the second half of 1984.

Despite growing strength in exports, computer products coming into the U.S. are stronger still. For the year, imports are expected to increase by nearly 60 pct, resulting in the erosion of another $500 million in the U.S. computer industry trade balance. For the next several years imports should continue to make inroads into the U.S. market.

Entering the third quarter, several segments of the computer industry continue strong performances. Personal computers remain popular in the front office and are beginning to find their way into manufacturing-related operations. In addition, superminicomputers, used primarily in computer-aided design/computer-aided manufacturing (CAD/CAM), numerical computation, and communications activities, are selling well. CAD/CAM system sales, for example, based on a strong showing through the first six months, should register a year-end improvement of 30 pct over 1983 sales totals.

Semiconductor sales also will show a sales increase of 30 pct by year's end.

On the negative side, 1984 has seen a sharp decline in sales to the home computer market.

INSTRUMENTS & CONTROLS—Early predictions for no growth of the instruments and control industry in 1984 appear to be overly pessimistic. Based on midyear estimates, the industry is showing a healthy 14 pct rate of growth.

This spurt, however, is not expected to continue and should flatten out in the third and fourth quarters.

One reason that the industry has had a good first half is that capital spending has picked up modestly. Surveys are forecasting that business plans to spend $309 billion for new plant and equipment in 1984, 14 pct more than in 1983. Product shipments of instruments traditionally depend on spending for plants and equipment.

The industry has also depended heavily on exports. Because of the high cost of the American dollar and the slow economic recovery overseas, the export of instruments continues to flounder.

However, industry officials are predicting that exports will begin to pick up at the end of the third quarter and will grow stronger throughout the fourth quarter.

Besides increased exports, the third quarter will see an increase in imports. At present, the value of imports is approximately one-third the value of U.S. exports, but imports are eating away at this favorable balance of trade. In two major groups—analytical and test and measurement instruments—imports from Japan have increased more than 40 pct over the past year.

One segment of the industry continues to perform well—instruments that are used by the semiconductor, computer, and telecommunications industries. This should grow at 20 pct clip through the remainder of 1984.

Instruments aimed at the housing and automotive markets also have done well in 1984, although higher interest rates could dampen housing starts and car purchases in the third quarter, slowing instrument sales.

OIL COUNTRY; MINING EQUIPMENT

OIL COUNTRY—A relatively strong rebound in shipments of oil country tubular goods seems likely to continue into the third quarter of 1984 as inventory declines and oil drilling emerges from the usual seasonal downturn.

In the first half of this year, the most dramatic increases in oil country tubular goods (OCTG) shipments have been in the import end of the industry.

Industry officials contend lower-priced European imports have been flooding the market at the expense of domestic producers. The trend seems likely to continue into the new quarter.

Drillers and distributors have begun to replace stocks that dwindled at the tail end of the recession, helping to spur the industry.

The severe discounting that's affecting the industry is lessening, although the European surge is having an adverse impact on domestic producers.

One positive sign for the industry continues to be the domestic rig utilization rate.

The rig count dropped slowly between January and April—a usual seasonal occurrence—but has since reversed itself.

Now, drilling rig counts are running at an average of about 2,300 (compared to less than 2,000 one year ago at this time).

An increase in rig utilization should continue in the third quarter, and the average in 1984 should rise between 8 and 10 pct above the 1983 average of 2,230. That would clear up any remaining inventories of OCTG and set the stage for an even stronger recovery in 1985.

Pricing uncertainties here kept many industry officials from stockpiling OCTG inventories.

But a continued economic recovery, normal seasonal weather patterns and continued profits for major oil companies are all factors that should combine to produce a stronger third quarter for the industry as a whole.

MINING EQUIPMENT—Mining equipment manufacturers are in the doldrums and most don't expect any great news in the foreseeable future. Main reason: overcapacity in iron ore, copper and coal.

Many iron ore mines, over the past few years, have been either closed or reduced. No one expects any new iron mine projects of any significance to be announced for years. In fact, the great worry in iron ore is cheap ore from Latin American mines newly built. "If that stuff (high grade South American ore) starts pouring in for American steelmakers, then you can kiss a lot more of the iron ore industry up here (the upper Great Lakes) good-bye," says an industry source.

Suppliers to the iron ore industry in the North American market expect only replacement and maintenance business to sustain them for several years. Worldwide, however, business has been good, which is part of the problem, some sources say.

Coal mining equipment manufacturers, on the other hand, are reporting far better news for the second quarter. "Except for those states, like Ohio, with high sulphur problems, coal mining has been a busy industry compared to recent years," says an industry expert.

Coal equipment manufacturers, however, are not reporting any signs of a boom period. "The mines are in place. The capacity is adequate. With high coal usage our business is good because we supply replacement parts. I don't expect any orders for the really large equipment like power trains to be out this year or even next," says one company vice president.

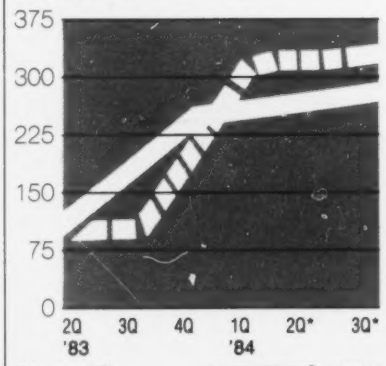
Coal mining has been fighting two wars for years. One is financial. The other is political.

High interest rates have a serious effect on coal mining decisions about expansion. That uncertainty also affects decisions in the equipment end of the mining industry.

The most dramatic increases in OCTG shipments have been in the import end of the industry.

Tubular Goods, Shipments

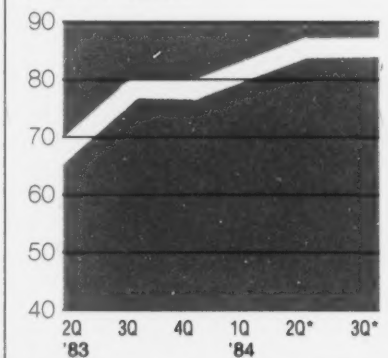
Thousands of Net Tons



Source: AISI
*IA estimate

Mining Equipment, Sales

Millions of Dollars

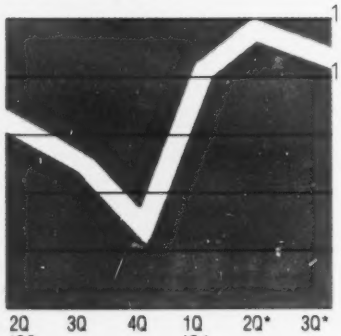


Total U.S. and export figures, based on present dollars, includes continuous miners, mobile loading machines, shuttle cars and cutting machines.
Source: Mining Equipment Manufacturers
*IA estimate

CONSTRUCTION; FARM EQUIPMENT

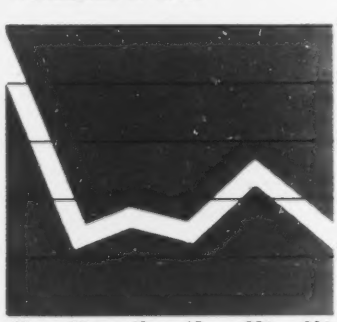
The highway equipment market segment was a leader in the 1983 recovery and is holding up quite well.

Construction Equipment, Shipments
Billions of Dollars



Source: Dept. of Commerce
*IA estimate

Farm Equipment, Wheeled Tractor Sales
Thousands of Units



Source: Farm & Industrial Equipment Institute
*IA estimate

CONSTRUCTION—Construction machinery forecasts, after some tax recovery buying at the end of the fourth quarter, continue to show a better performance in 1984 than last year. Even though industry sources say they believe that the mild spurt at the end of the fourth quarter borrowed some sales from the first quarter, the first and second quarter have continued the gains that had been expected through all of this year.

Seasonally, the industry picks up about 20 pct over the first quarter in the second quarter of any calendar year and that recovery still appears to be on track. That means industry sales would tail off moderately in the third calendar quarter, as the forecast chart indicates. This isn't a steep drop—usually only about 7 pct. Industry forecasters say they can hold at that figure even if interest rates continue to rise.

The highway equipment market segment was a leader in the 1983 recovery and is holding up quite well. Some companies, particularly in the paving equipment area, say they can measure further gains this year despite a performance that was higher than many segments of their industry when the recovery began last Spring.

There's still disagreement as to how well inventories of finished goods have been cleaned out by the low industry manufacturing rates of 1983 and 1982. There's been enough of an inventory reduction, however, that the higher manufacturing rates reported in the first quarter have held up and will continue through the current quarter, tailing off during July and August.

The manufacturing rate is still low by historic standards, yet for many plants it's the best level they've hit in the past three years.

Export continues to be of only moderate help. The dollar is still too high relative to other currencies to give U.S. builders the kind of push they should get from what seems to be a mild recovery in foreign markets.

FARM EQUIPMENT—Farm machine forecasts have a tendency to parallel construction machinery. Many farm machine builders also have light construction machinery lines and some market equipment into both of these markets.

But where construction machinery is tracking along pretty well, farm equipment is showing a lot of disagreement.

A major industry member reported production up 15 pct from the year ago period and sales up by the same figure.

At the same time, another major equipment producer was beginning to cut back its schedules. It's causing a lot of confusion and has cooled some of the enthusiasm over tractor sales, which in the first four months of this year were up over 8 pct.

From a forecast 10 pct gain this year that was expected in January, a consensus reported by the Farm & Industrial Equipment Institute now puts 1984 sales up only 9 pct.

The other big ticket item, combines, hit their seasonal selling stride in June, but were saddled with about one-year's supply of machines.

What's surprised some people outside the industry was the gains in manufacturing schedules at a number of farm equipment plants. These weren't big, but they tracked upward fast enough to keep field inventories at a high level even as tractor sales advanced in the first quarter.

Farm equipment is still a buyers' market. Prices have been soft for over a year and probably were softer by the beginning of 1984. Farmers have finally begun to spend some of their PIK money from 1983 crop sales, and crop prices have been pretty good through the first part of 1984.

The stage should be set for a stronger farm machine year, but it's not producing any really solid manufacturing gains. Things are better, but not that much better. Nobody's getting exciting even though equipment sales are above last year's levels.

CASTINGS; FORGINGS

CASTINGS—Foundries continued to show good gains in the second quarter and will continue a strong performance for this quarter and probably the rest of 1984, say foundrymen.

Tonnages of castings shipped have been running more than 25 pct over the year ago period during the first half of 1984. Even allowing for a normal summer seasonal drop, the tonnages against a year ago will continue to look good in the third quarter.

Even with this recovery, the domestic foundry industry has a long way to come back. In its peak year, 1978, the industry shipped 19 million tons of ferrous castings. At the lowpoint in 1982, it shipped 8.5 million tons. This year, the industry expects to ship about 10 million tons, though the first half has been running at a stronger rate.

It means that some foundries, particularly specialists who supply the auto industry, are running at high rates. But a lot of plants that make big castings are around 60 pct of capacity and some are still struggling along at figures as low as 40 pct of capacity. There's enough demand to call for a higher operating rate, but they've been hit hard by imports from the Far East, India, Canada and Mexico.

This has also made for some difficult pricing situations. The new foundries have a lot more efficient equipment, so they can operate at a much lower break-even point. But it is still difficult to keep net returns up.

Gray iron is running well, helped by the continuing high strength of auto and appliance demand. What's adding to the new volume, and particularly to the heavy castings demand is the gain in capital goods markets. Trucks, diesels, and even some railway orders are helping, besides the continuing gains in machine tools and other manufacturing machinery. The soft spots are still farm equipment—always an important castings market—and some parts of the construction machinery market.

FORGINGS—The forging industry continues its steady climb out of the recession.

Bookings of impression die forgings in the second quarter were running more than 50 pct ahead of a year ago period. Orders should continue to improve at a 50 pct clip, in comparison with 1983 figures, through the third quarter.

The large increase in orders the forging industry is experiencing this year is not so much an indication of health but of the long way the industry has had to climb to pull itself out of the past recession. For example, bookings of forging orders during 1982 were 45 pct below 1981 totals.

Even today, the industry has yet to recover its former strength. Sales of forgings to the truck and automotive industry remain strong.

Some 20 pct of industry shipments go to automobile, truck, bus and motorcycle markets. By comparison, only 13.6 pct of the industry's shipments went to these industries in 1982. Ordnance sales also have picked up in recent months.

Forgings also are increasing their penetration in housing-related markets (plumbing fixtures, valves and appliances, for example) and in fabricated plate work and special machinery.

Major markets are still in the doldrums. The aerospace industry continues to flounder. There are few signs of increased agricultural equipment purchases. Sales to oilfield and off-highway equipment makers remain sluggish.

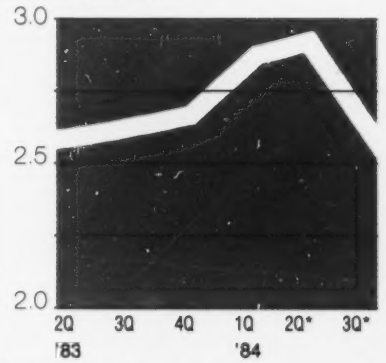
Industry officials, however, are confident that forging sales to the automotive industry will continue to hold up through the third quarter and that off-highway equipment and the oilfield market, which gave indications of growth in the second quarter, will pick up this quarter.

There is also some industry optimism that more orders soon will be arriving from the aerospace industry.

Tonnages of castings shipped have been running more than 25 pct over the year ago period. . . .

Ferrous Castings, Shipments

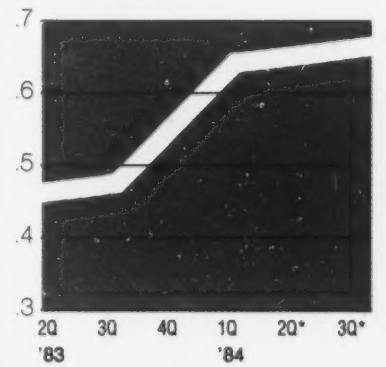
Millions of Tons



Source: Dept. of Commerce, Iron Castings Society
*IA estimate

Impression Die Forgings, Shipments

Billions of Dollars



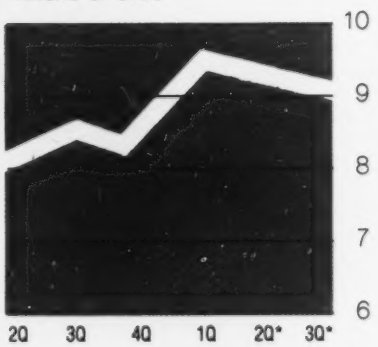
Source: Forging Industry Assn
*IA estimate

APPLIANCES; MATERIAL HANDLING

Buoyant consumer spending and a hot spring . . . have kept appliance sales brisk.

Appliances, Shipments

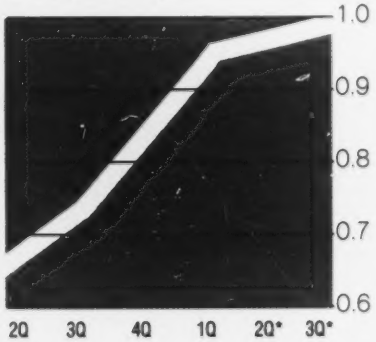
Millions of Units



Source: Association of Home Appliance Manufacturers
*IA estimate

Materials Handling, Shipments

Billions of Dollars



Source: Material Handling Institute
*IA estimate

APPLIANCES—Appliance sales, which came charging into 1984 like gangbusters, should remain strong through the third quarter.

Through the first quarter of this year, major appliance sales were more than 36 pct above the same period of 1983, and 1983 was a strong year for the industry. Through the second quarter, the figure slid to a 26 pct increase. Even by the end of the third quarter, 1984 sales should be about 17 pct greater than comparable 1983 totals.

Buoyant consumer spending and a hot spring, which caused air conditioning sales to skyrocket, have kept appliance sales brisk. However, in the third and especially the fourth quarter, a major force will be conspiring to slow down booming appliance sales.

Rising interest rates are already bringing on a decline in housing starts. When mortgages top 14 pct, which they have recently done, housing sales and starts tend to tail off dramatically. High interest rates also mean that the customer who buys appliances on credit is less likely to borrow the money.

On the positive side, appliances are not as credit-sensitive at automobiles and will continue to sell when other industries feel the restraining tug of high interest rates. In addition, because a large percentage of home appliances are old—over ten years old—a demand for new appliances continues.

Finally, as the overall economy continues to improve, more people are finding jobs and, consequently, have more to spend on a new appliance.

Despite rising interest rates, the appliance industry should hold up well enough in the third and fourth quarters to make 1984 the second best year (and possibly even the best year) for the sales of major home appliances.

The appliances experiencing the greatest rates of growth in 1984 are microwave ovens and room air conditioners, with increases through April of 85 pct and 78 pct respectively.

MATERIAL HANDLING—Material handling equipment manufacturers report steady increases in bookings as the recovery continues. While the deficit and interest rates have some companies worried about an aborted recovery, most are quite optimistic about the second half of 1984.

"We are worried, somewhat, about erratic, if not high interest rates," says one large systems maker. "And we do feel concern, like I suppose everyone does, about deficit spending. Our product is very costly and perceptions about interest rates are a major factor in purchases. However, we see no signs so far that the recovery is being slowed by those two factors."

But other segments of the material handling industry are not so optimistic. Large systems manufacturers have one special luxury not afforded to other industries or various other parts of their own. Imported product is a minor threat to companies here that make AS/RS equipment. "Our product is largely custom and foreign sourcing is usually not sensible for obvious reasons," says one industry executive.

Industrial truck makers, on the other hand, are not so optimistic about 1984's second half. Imports, particularly from Japan and other Asian countries, have captured a frightening share of the U.S. market and industry sources believe the American factory truckmakers may be repeating the tragic history of the "standards" people in the fastener industry while AS/RS companies are the "specials" manufacturers in material handling.

Still, most of the remaining industrial truck companies in the U.S. say business is better now than it has been in three years and the rest of 1984 should see continued improvement.

"If the economy continues to grow at the rate it has been for the first two quarters, we expect our industry to be in very good shape by the end of the year," says one truck maker.

WELDING; HEAT TREATING

WELDING—Like most industries, welding has been fighting its way back from some bad times.

For a while, the success of the battle looked too good to be true. The first quarter of this year was strong, and the second quarter was even stronger. However, business is showing signs of leveling off as the third quarter begins.

According to one executive, several of the big user industries of welding have come back, but they are certainly not the giants of former years (like 1981). The large companies have not come back strongly, either.

One bright sign is growing interest in robotic arc welding. Though only a tiny portion of the overall welding industry, sales are starting up. Not too long ago, many of the robot manufacturers could not understand why the welding fabricators would not invest in robots.

According to the National Welding Supply Association, Philadelphia, the month of January was the best month on record since the NWSA began keeping statistics in January 1980. Sales were strongest in equipment and filler metals. Shielding gases also demonstrated improvement.

Commenting on the good start in 1984, a spokesman for one of the welding manufacturers, said: "We would like to feel that it's going to stay that way for a period of time, but we're not quite that optimistic."

Defense business, mainly in the form of Naval shipbuilding, is strong. Construction is another industry making a good comeback for welding. And of course, automotive is in good shape. There's a lot of talk about some new pipelines, but it will be no surprise if none is started this year. In the pressure vessel field, not much business is available. What is out there seems to be going overseas.

The third quarter will not match the second quarter, but it might keep pace with the first quarter, which wasn't all that bad.

HEAT TREATING—Earlier *Iron Age* forecasts for heat treating performance in 1984 could be too low. Some heat treat plants have doubled their performance over 1983 in the opening months of 1984. A 50 pct gain is not uncommon.

It's one of the most remarkable performances in the industrial group, and though the rate of gain dropped back in the second quarter, heat treaters are showing a better recovery than many supplier industries.

This has been indicated by gains in heat treat equipment sales as well. But the new capacity tends to lag an upturn so that a quick sampling of heat treat shops finds a number of them up at capacity. There's been a continuing good business is supplying heat treated parts for the auto industry, but the amount of capital goods industry work has been growing.

Even in areas like oil country goods, say heat treat company officers, there have been steady gains in the first quarter. That has pushed some multi-plant heat treat companies to near capacity operations. Said one of them, "We're way over our best forecast, and we're revising our forecast for all of this year as a result."

There should be a seasonal slowdown in the July-August period and some sources report that these cutbacks were already appearing in the order-books by mid-June. That will help to hold back the second quarter output more nearly at the first quarter level but there will still be gains.

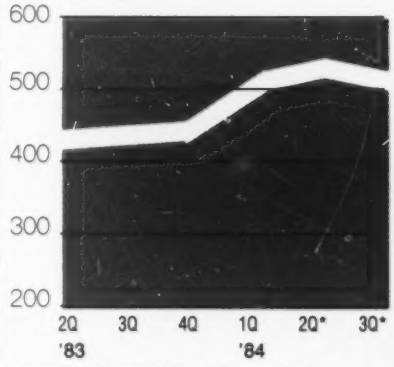
After the summer seasonal drop, marketers say, there's every indication that heat treat demand as well as demand for new heat treat equipment, will continue up to levels well over the 1983 average.

Since most heat treat companies were already doing much better in second half 1983, the gains can't be as much, percentage-wise, as they were in the surprisingly good recovery of the first quarter of 1984.

One bright sign is growing interest in robotic arc welding.

Welding, Shipments

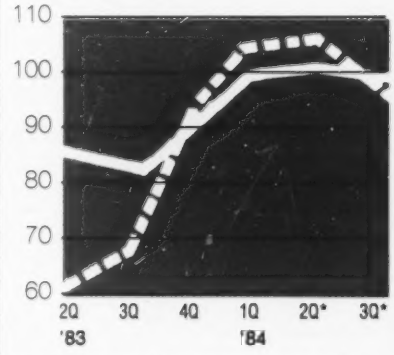
Index: 100 = $200 million in distributor sales



Source: National Welding Supply Assn
*IA estimate

Heat Treatment

Millions of Dollars



Source: Industrial Heating Equipment Assn., Metal Treating Institute
*IA estimate

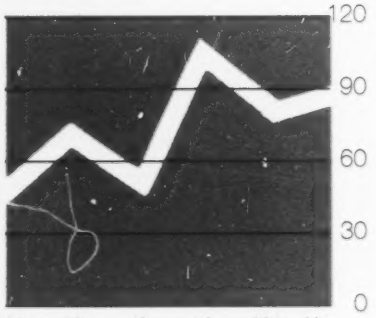
Sales of Commercial Heat Treaters
Heat Processing Equipment Orders

AIRCRAFT; ENGINES & TURBINES

One major factor affecting the industry has been rebounding airline profits.

Commercial Airplane, Orders

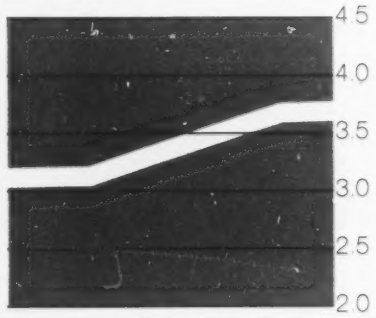
No. of Planes



Source: Airbus, Boeing, McDonnell-Douglas
*IA estimate

Engines and Turbines, Shipments

Billions of Dollars



Source: Dept. of Commerce
*IA estimate

AIRCRAFT—Increasing airline traffic and the strong U.S. economic recovery are combining to spell positive news for major airframe manufacturers. Major companies foresee 1984 sales of new aircraft to be at least the same level as one year ago, an indication that the lengthy slump that has sapped profits in the commercial aircraft sector has at last come to an end.

The first half of 1984 has been a lively one, with indications that this trend will continue well into the third quarter.

One major factor affecting the industry has been rebounding airline profits. At the beginning of the third quarter in 1983, the nation's major airlines were drowning in red ink, the bankruptcy of one company loomed and there were predictions of a major shake-out in the industry, all of which suppressed demand for new aircraft.

In 1984 the picture has radically changed. Air industry earnings could approach $1 billion by the end of the year, a far cry from the $730 million loss suffered in 1982.

The strength of the recovery is global; the International Air Transport Association recently reported world airline companies will climb out of the red this year for the first time in five years. Overall profits could reach $250 million.

For U.S. aircraft manufacturers this trend translates into fleet modernization and new orders.

Despite the general optimism, some dark clouds remain. The market for commercial aircraft remains extremely competitive with excess capacity continuing to exist in some areas, like widebody jetliners.

These conditions have led to substantial price pressure, the requirement of trade-ins of older airplanes when new craft are purchased, delivery slides, financing commitments and, often, the substitution of smaller jet transports for larger ones previously ordered.

ENGINES & TURBINES—Shipments in this industry have been slowly improving for the last few quarters. That trend shows little indication of changing through the remainder of this year.

The general economic recovery has helped the market rebound from its precipitous drop in early 1983.

But few industry officials are predicting any dramatic improvement in engine and turbine shipments in the short term, certainly not in the third quarter.

The utility segment of the industry continues to be plagued by lagging profits and an uncertain short-term economic future. Increases in consumer and industry demand for energy have not been as dramatic as originally projected; as a result there have been few new orders in the power plant market. The well-publicized difficulties with nuclear power also have adversely affected the market.

The strength of the domestic economic recovery has given officials in this wide-ranging industry reason for optimism.

But dramatic improvement that would translate into new engine and turbine shipments probably would not be felt until 1985 at the earliest.

Fears of a recession in the fourth quarter of 1984 or first quarter of 1985 could abort a strong recovery in the industry before it has had a chance to gain steam.

So, many industry officials are being cautious in their predictions, especially in the short-term.

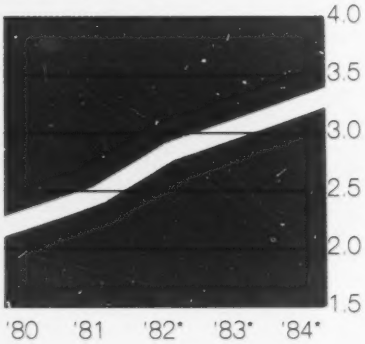
The backlog of earlier industry orders also is disappearing, a further sign of optimism.

The consensus among officials in the engine and turbine industry is that slow improvement will continue through at least the next quarter while the full impact of the general economic recovery continues to trickle down into the market for such long-range products as power plants and diesel engines.

SCREW MACHINE PRODUCTS; FASTENERS

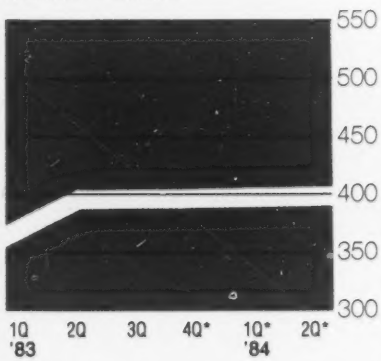
A slow auto market will have an impact on screw machine product sales.

Screw Machine Products, Shipments
Billions of Dollars



Source: Dept. of Commerce
*IA estimate

Fasteners, Sales
Millions of Dollars



Source: Industrial Fasteners Institute
*IA estimate

SCREW MACHINE PRODUCTS—How the screw machine products industry will fare in the third and fourth quarter has suddenly become a mystery. Upbeat through the second half of 1983 and coming on strong through the first quarter of 1984, the industry suddenly suddenly saw a big dip in shipments in April. Before the April decline, shipments of screw machine products were up nearly 24 pct in comparison with the first four months of 1983.

The big question is: Were April declines an anomaly or the first indication of a softening market? There are mixed feelings among industry members, but most feel the industry is headed for a bit of a slowdown in the third and fourth quarter. Some fear that rising interest rates will slow their business as well as the economy in general.

The automotive industry, which was exceptionally active in the first half of 1984, will cool down in the third quarter. Since one-third of all screw machine products go to the automakers, a slow auto market will have an impact on screw machine product sales.

Many other industries which use substantial numbers of screw machine products are also predicting a flat second half. Spending for capital equipment—special machinery, machine tools, and the like—has improved modestly in the first and second quarters but is expected to fall off in the second half of 1984. Faced with the prospect of higher interest rates, manufacturers are revising downward their estimates on capital spending for 1984.

Despite earlier expectations, little evidence exists that construction or farm equipment sales will improve in the third quarter. Also, another significant market for screw machine products, the aircraft industry, remains flat.

On the plus side, the appliance industry has shown exceptional staying power and should continue to do well. In addition, electronics-related industries remain healthy.

FASTENERS—Mechanical fastener manufacturers have only recently noted a slight decline in their continuing climb up from the disastrous past three years.

"Business, in general, has been good for our first half. We're finding continuing increases almost across the board," says one industry spokesman.

Do rising interest rates and the Federal deficit worry the industry? "Naturally, we don't like either, but the effects of those two factors are upon our customers in a direct way. After all, this isn't even a nickel-and-dime business," says a company president.

What worries this industry more are imports and "alternative joining systems."

Imports have practically ruined some segments of the domestic industry and there is little hope among domestic producers that much of the "standards" business can ever be won back. "Specials" producers, however, are optimistic about 1984 and 1985.

Alternative joining systems—mainly welding and adhesives—are the industry's other perennial worry. While nobody's really gluing cars together and welding hasn't totally replaced rivets, there is a constant tug-of-war among the three major joining industries. "I could care less about the deficit or interest rates," says one specials maker, "Those are either matters of more or less inflation. I can live with inflation, at least some. But imports and things like adhesives keep me worried."

Others in the industry describe the rest of 1984 as "hopeful" and "better." The mood, while hardly ecstatic about prospects, is closer to optimism than it has been in three years.

Some of this optimism comes from the general belief that the economy is really entering a period of long-term steady growth. Some of it also comes from some serious moves on Capitol Hill to slap new controls on foreign products of many kinds, including fasteners, industry analysts say.

BEARINGS; STAMPINGS

BEARINGS—Bearing sales, buoyed by a heavier demand from the automotive industry, are expected to rise by nearly 9 pct in 1984. However, sales should tail off in the third and fourth quarter from a strong early showing.

Some major users of bearings—in particular, the automobile industry—are forecasting a slowdown in the third quarter. Auto output will dip as production catches up to demand. Automotive manufacturers are concerned that higher interest rates in the third and fourth quarter will curtail their sales.

Besides the industry-wide slowdown in the third quarter, the bearings industry has another major concern—imports. While bearing imports were off last year, they have come on this year with a vengeance.

In the first quarter alone, ball bearing imports were up 39 pct over 1983 first quarter totals, and roller bearing imports were up some 49 pct. Much of this bearing flood comes from Japan.

Speculation is that a sizable portion of these imports are destined for the automotive aftermarket that services Japanese cars. With the big influx of Japanese automobiles into the U.S. in recent years, a large aftermarket is springing up to service these cars.

The third quarter of 1984 will be a soft one for many major bearing users. The aircraft industry remains in the doldrums. Sales of machine tools and other machinery are expected to slip as businesses, concerned about rising interest rates, revise their capital equipment spending plans.

The farm and off-highway equipment industries have not recovered as expected this year and likely will remain sluggish in the third quarter. After a solid start this year, housing starts are not holding up. Therefore, less construction equipment will be needed.

Hope is that the slowing of business in the third quarter is just the economy taking a breather before it again moves forward.

STAMPINGS—Neither creeping interest rates nor their insidious effect on consumer spending plans seem enough to darken the stamping industry's overall expectations for the third-quarter.

"We anticipate gains to drop off a bit as the year progresses," said one Eastern stamping executive, who noted that the general rebound had to come down from its earlier high.

Still, the consensus among stampers is that their third quarter will outrank the second.

This confidence was reinforced by the April report from the American Metal Stamping Association. March contract metal stamping order bookings were at the highest ever recorded, while shipments shot up 21 pct from February.

And, although the industry's order backlog slipped a notch in March from February, it stood 29 pct higher than March 1983.

Another positive indicator: Industry employment rose 4 pct in March and was 11 pct higher than a year ago.

Stampers are banking on a continued binge in new car sales to keep their order books fat.

Other active markets include computer and office equipment, appliances and defense.

Yet there is some nail-biting over the housing situation. If mortgage rates catapult to between 16 and 17 pct, housing construction would slump and dragging with it sales of appliances and other housing-related items.

However, despite creeping interest rates, independent appliance sales should remain robust, punched up by a significant amount of consumer replacement and discretionary buying.

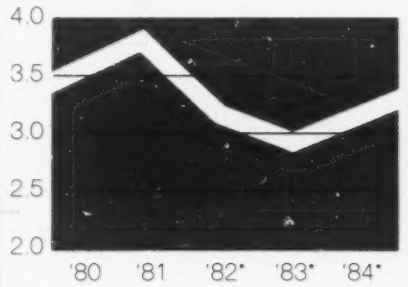
Recent sales activity has encouraged stampers to rebuild their inventories, although, as one put it, "very cautiously."

Lead times have stretched out a bit since the first quarter, but no further lengthening is anticipated.

The third quarter of 1984 will be a soft one for many major bearing users.

Ball and Roller Bearings Shipments

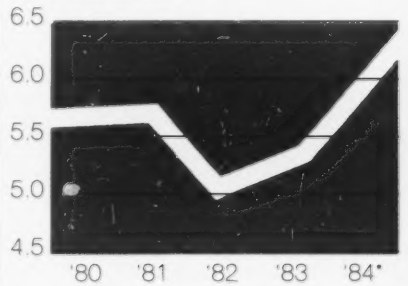
Billions of Dollars



Source: Dept. of Commerce
*IA estimate

Stampings, Shipments

Millions of Dollars



Based on the average of a control group whose shipments total more than $500 million annually
Source: American Metal Stamping Assn.
*IA estimate

GEARS; VALVES

GEARS—The gear industry sees the third quarter sales finishing 10 pct ahead of the second quarter.

After 1983's anemia, the gear industry was poised for a turnaround in 1984. The first quarter picked up as predicted, which made industry forecasters optimistic the second quarter would finish perhaps 15 pct ahead of the first.

Apparently, as one gearmaker told *Iron Age*, "this seems to be materializing."

But, despite the good news, gearmakers seemed noticeably guarded in their comments. The question mark, of course, is what will interest rates do.

"We've been stung before," one industry member said. "I guess we'd rather not sound too optimistic and wind up with egg on our faces."

Meanwhile, orders flattened in the last month, particularly among large gears (helical, planetary, worm or spur), which are more sensitive to rising interest rates.

Also flat these days are inventory levels. Lead times are still relatively short.

Growth in the automotive, appliance, aircraft and paper industries is expected to put teeth into gear demand and counteract the sluggishness that many industry members anticipate in their steel and petroleum markets.

The farm equipment industry remains mired in a slump, unaffected by consumer outlays.

A slight machinery sales pickup is expected through this year, but not enough to raise the hopes of the gearmakers and other suppliers.

Meanwhile, imports continue to harass domestic gear manufacturers who are certain there's little relief in sight.

Still, approaching the third quarter, gear manufacturers are pleased the economic revitalization has gotten them off the launch pad.

They just hope interest rates don't abort their flight.

VALVES—"I won't go so far as to characterize 1984 as rosy," said one valve industry spokesman, "but we are certainly coming out of the woods."

Indeed, the industry may emerge farther than expected.

One valve manufacturer predicted that this year will close not 4 to 8 pct ahead of 1983, but perhaps as much as 8 to 10 pct ahead.

He explained that his company is approaching the third quarter well ahead of plan and cited market strength in the small OEMs.

He said his sales in the past 8 to 10 months have been especially vigorous and he even cites some rise in demand for machine tools. This, in turn, translates into an increase in demand for servos and valves that go into them.

On a negative note, another industry source mentioned a softening recently in his sales to both truck and commercial vehicle markets.

Shipments of valves and pipefittings were expected to increase about 6 pct in constant dollars, lower than the projected 8.5 pct increase in fabricated metal products, but higher than the 5.2 pct rise forecast for GNP this year.

Oil field equipment, chemical processing plants, water and sewage treatment facilities, paper and paperboard and power generation plants are expected to be the chief contributors to this year's expanded valve business.

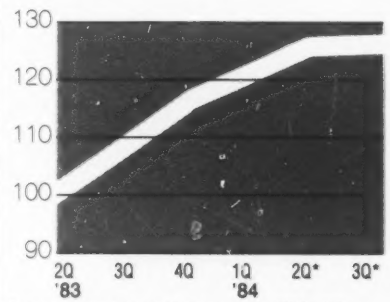
But an industry forecast indicated the continuing decline in commercial construction plus the slow upturn in petroleum refining will retard additional growth of valve sales through the second half of this year.

Meanwhile, reconditioning and repair work continue to increase as a percentage of the valve business.

What *does* plague the industry now is imports. After a sharp dip last year, imports are expected to rise about 12 pct this year to over $670 million, capturing an estimated 8 pct share of total U.S. apparent consumption.

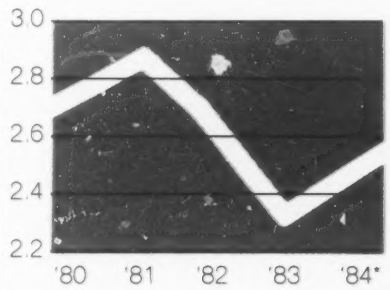
After 1983's anemia, the gear industry was poised for a turnaround in 1984.

Gears, Bookings



Based on average monthly bookings. 1977 = 100
Source: American Gear Manufacturers Assn.
*IA estimate

Valves, Shipments
Billions of Dollars

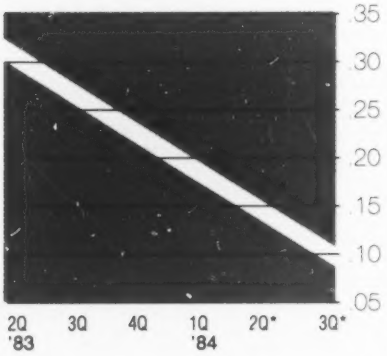


Source: Valve Manufacturers Assn.
*IA estimate

SHIPBUILDING, RAILCARS

Only four commercial ships of 1,000 ton gross weight or more are under construction in U.S. shipyards.

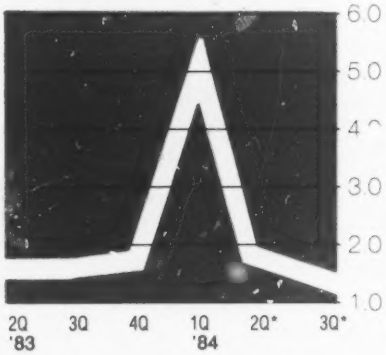
Shipbuilding
Millions of Gross Tons



Commercial ships on order or under construction, 1,000 gross tons or over

Source: Maritime Administration
*IA estimate

Rail Car Orders
Thousands of Units



Source: American Railway Car Institute
*IA estimate

SHIPBUILDING—Commercial shipbuilding in the United States continues its downward spiral. The first quarter was bad. The second quarter was worse. And, the third quarter seems destined to continue downward. Only four commercial ships of 1,000 ton gross weight or more are under construction in U.S. shipyards. By the end of the year, there might not be any.

Looking at it from another point of view, U.S. companies are very good customers for foreign-built ships, especially those constructed in Japan and in South Korea.

Last heard, the United States dropped to seventeenth place among commercial shipbuilding nations. We are now behind Romania and are barely ahead of India as a commercial shipbuilding nation.

Just when it looked as though Navy shipbuilding would be our salvation, the House Armed Service Committee sliced $1.2 billion dollars from the $13.1 Navy budget.

According to the Shipbuilders Council of America, Washington, D.C., in terms of numbers of ships, the Committee killed three vessels. They were a TAGOS ocean surveillance ship, a TAK support vessel and a FFG-7 guided missile frigate approved last year.

At the same time, the panel approved the funding of the DDG-51, the Arleigh Burke class guided missile destroyer, a new combatant "critically sought" by the Navy.

Despite the setback, the long-range goal of a 600-ship fleet for the Navy is still in sight.

The present glut among offshore structures continues to plague the shipyards that have been in that business in the past. New business is expected eventually, but certainly not soon enough to warm up any predictions for the third quarter of 1984. The good old days when American yards would be building 70 rigs at one time are gone. They are now down to two or three.

RAILCARS—After an extensive nosedive from 40,000 railcars in 1980 to 6,000 units in 1983, the railcar industry has bottomed out and is now on the way back. In early April, railcar production exceeded the grand total of orders during 1983. January, with orders for 2,736 cars, was the big month.

The second quarter of 1984 slipped back considerably and is more in line with the fourth quarter of 1983. The third quarter is not expected to do as well as the second quarter, although business is expected to pick up toward the end of the year.

According to the American Railway Car Institute, 722 new freight cars were placed in service in April, compared with 894 the month before and 205 during April 1983. Deliveries in the first four months of the year totalled 2,372 compared with 1,590 for the same period last year.

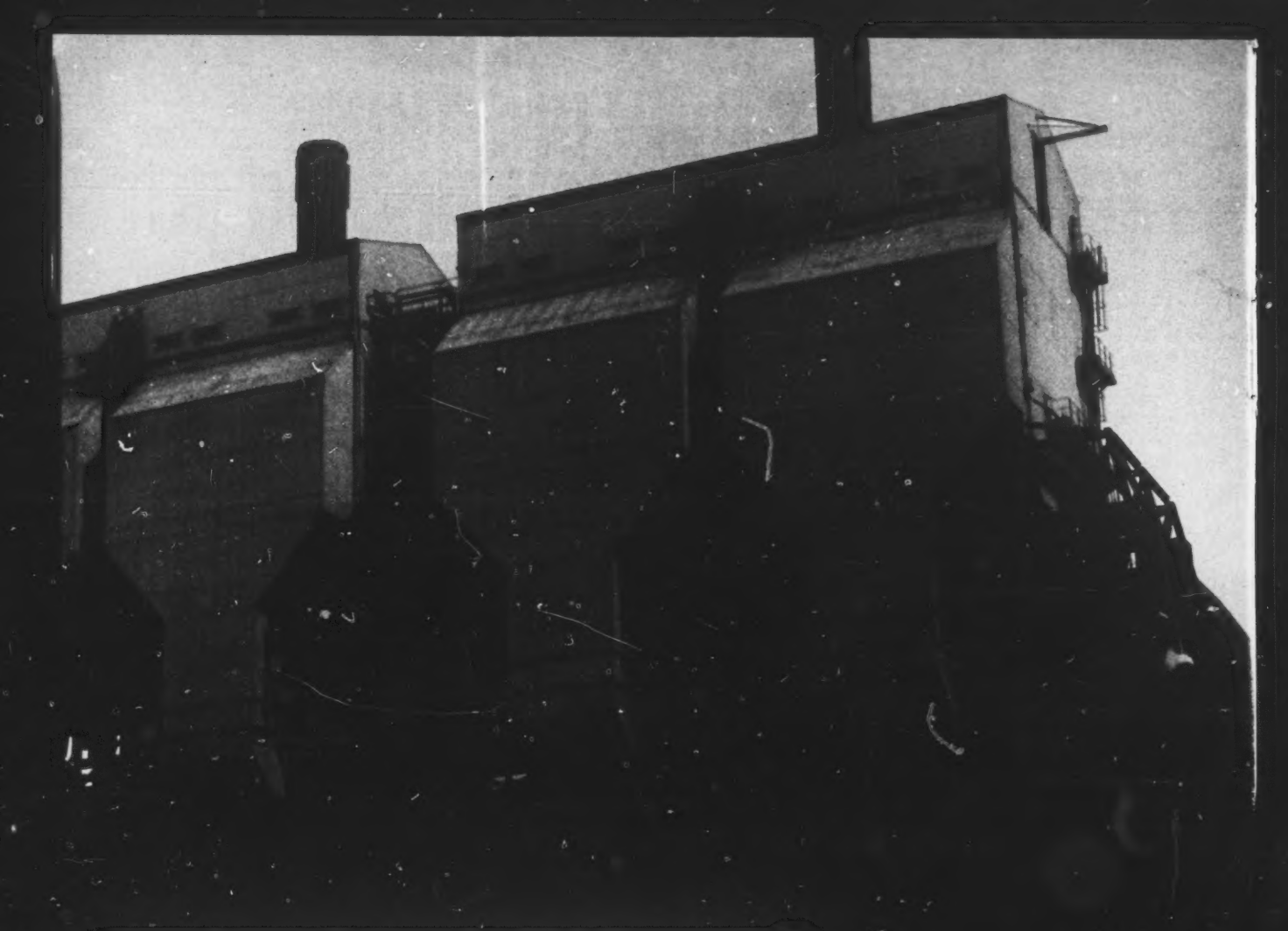
Cumulative orders for the first four months of 1984 totaled 6,144, compared with 1,622 railcars for the same period a year ago.

The backlog of cars on order and undelivered as of May 1 was 6,742 compared with 6,928 on April 1 and 4,326 on May 1, 1983. The average backlog for the year so far is 6,466 compared with 4,174 last year. Through the first four months, 115 locomotives were placed in service, compared with 20 a year ago.

Statistics are also available from the Association of American Railroads (AAR) on car loadings.

As of the week ending May 19, 1984, total cars loaded were 410,693. During a similar period the previous year, a total of 364,012 cars were loaded. Coal is still the major commodity for the railroads, although motor vehicles and equipment posted a strong gain this year. □

Reprints available while supply lasts. For single copy, circle No. 72 on Inquiry Card. Additional copies, $1 for articles up to eight pages. Longer articles $2 each. Please include payment with orders of $10 or less. Quantity reprints available. For information write: IRON AGE, Reader Service, Chilton Way, Radnor, PA 19089. Ask for Reprint No. 1041.



Capital Expenditures For Air & Water Quality Control

Year	Water	Air	Capital Expenditures
1983	$ 65.4	$ 74.8	$140.2
1982	74.8	76.1	150.9
1981	244.4	44.8	289.2
1980	194.1	316.4	510.5
1979	144.4	506.4	650.8
1978	71.8	317.2	389.0
1977	71.4	463.4	534.8
1976	104.8	384.4	489.2
1975	107.6	347.5	455.1
1974	104.8	182.4	287.2
Source: AISI			

Expenditures for capital equipment have fallen dramatically in the steel industry as evidenced by these figures. (Photo shown is the electrostatic precipitators at the No. 4 A.C. station at Inland Steel.)

STEEL LICKS THE POLLUTION PROBLEM... FOR NOW

Although steel may be out of the woods and over the hump, there still exists some loose ends to tidy up. One loose end some producers are having difficulty with is the proposed standard for particulates.

BY GEORGE MCMANUS

"In terms of the existing state implementation plans, we've reached agreement with all of the states," said David M. Anderson, director of environmental and government programs for Bethlehem Steel Corp.

Dr. Anderson was referring to agreement on air cleanliness. With the possible exception of a legal contest at Burns Harbor, Bethlehem is up to snuff at all locations.

The company is, likewise, in good shape on water purity. "We're finishing up all of our permit negotiations," said Dr. Anderson. "They're practically done."

This would suggest the steel industry is over the hump and out of the woods on air and water quality. Dr. Anderson isn't so sure about that.

"We don't know," he said. "We don't know what's going to happen in the Eighties. It depends, I think, on the environmental movement. Anything we can see indicates there's not going to be any relaxation in any of these laws."

There is always the potential for a massive tightening. One legislative proposal called for pig iron and coke to be taxed as feedstocks under the Superfund program. Had the proposal not been killed, the cost to the steel industry would have been $150 million.

Steel producers are now battling the proposed standards for particulates. According to one estimate, the new secondary standard will cost all industry $14 billion with the steel industry accounting for 20 to 25 pct of this.

All of which explains why Dr. Anderson hesitates to pronounce an end to the era of heavy environmental spending. There can always be big new requirements.

"We think we are adequately addressing the present laws," said P.X. Masciantonio, vice president, environment and energy, United States Steel Corp. New laws could mean new problems, he indicated.

According to the American Iron & Steel Institute (AISI), the mills have spent $5.8 billion on clean-up devices since 1951. "The industry has equipment in place capable of removing 96 pct of criteria airborne particulates and 98 pct of water pollutants," said AISI.

In 1983, steel companies spent

The environmental control department at Bethlehem's Sparrows Point plant check a scrubber operation with a portable sampling train.

$140 million on pollution control. That was down from the peak of $650 million in 1979. It was the lowest outlay in over 10 years.

For all industry, environmental spending has been trending downward. In real terms, spending has fallen in every year but one since 1975. There will be an upturn in 1984, with outlays of $7.6 billion comparing with $7.2 billion in 1983.

Less Controversy

All these numbers reflect the advanced stage of pollution control throughout industry. One interesting point is that there seems to be much less controversy. The deadline for applying the Best Available Technology to water systems was July 1, 1984. In the past, there would probably have been loud hassles prior to the deadline. This time, agreements on water technology have been reached with little fuss.

"We're going to be fully permitted," said Mr. Masciantonio. It wasn't too long ago that U.S. Steel was prominently featured on the Bad Actor list of the Environmental Protection Agency (EPA). Now, U.S. Steel seems to be in line for a good citizen award.

Not too many companies will actually meet the water deadline. Guidelines for water weren't finalized until February of 1983. That didn't leave nearly enough time to go through the long permit procedure and have the equipment in place by the middle of 1984.

Accordingly, there has been a de facto extension of the deadline. Permits are issued if companies can show they will have the required equipment installed by a specified date.

A similar course was followed on clean air. The deadline for compliance was the end of 1982. Because of lags in state implementation plans, a lot of areas and companies failed to comply with standards by that time.

There was talk at the time that EPA would ban new construction in non-attainment areas. The Clean Air Act called for drastic action of this nature. There was no construction ban. The deadline was simply ignored.

The government's approach on both air and water has been to leave obsolete legislation standing, but ignore the unrealistic provisions. That's fine, but it can mean companies are in technical violation of the law and vulnerable to citizen's suits.

"Even those of us in industry wish Congress would come out and do something," said John Barker, longtime environmental specialist for Armco, Inc.

It's unlikely Congress will update either the clean air or the clean water law this year. "The water bill has a slight chance of passing this term," said a Washington official. "There's no chance the air act will pass." New Superfund legislation is given a shot at passage.

From a steel standpoint, the current uncertainty is possibly preferable to decisive action by either Congress or EPA. Recent experience suggests that any major change would be for the worse.

That seems to be the outlook now on standards for particulate. For years, the steel industry argued that this standard was too tight and should be reviewed. The Clean Air Act calls for regular reviews.

There was a review finally. The

Dust is removed from the sintering plant by two banks of 30 cyclones which precede the scrubbers in the cleaning train, and remove 500 lbs of dust per hour. (Photo is Bethlehem's Sparrows Point plant.)

Clean Air Scientific Advisory Committee came up with a range of dust concentrations extending from 150 to 350 micrograms per cubic meter over 24 hours. In March of 1984, EPA came out with proposed new standards.

The agency went along with one industry contention. "They're saying we should measure inhalable particulates rather than total suspended particulates," said Earl Young, AISI vice president.

Steel producers have long contended that coarse particles—over 10 microns—could be injurious to health only if they hit a man over the head. EPA acted on this thinking but proposed tight limits—150 to 250 micrograms per cubic meter. The existing standard, for all particular sizes, is 260 micrograms.

"The effect on the industry would be the same as if they hadn't made the correction," said Dr. Anderson of Bethlehem.

Secondary Standard

In another move, EPA has come up with a new secondary standard for particulates. Secondary to health are such things as property damage, impact on farming and aesthetics.

"For secondary, they're saying total suspended particulate," said Mr. Young. "They've given us a range that is at, or below, the present primary standard."

In short, the steel industry is back to square one on particulate. Steel people would like to see the whole secondary standard dropped. That, in effect, is the current status. There is a secondary standard but because of uncertainty about federal policy, the states haven't bothered with enforcement.

If it goes through, the new secondary standard will have full legal force and as has been indicated, it could cost industry $14 billion. No final action has been taken and the cost estimate could be high by as much as 100 pct.

"If they go toward the top of the range, then conceivably we could have zero additional air cost," said Dr. Anderson.

Without any change in the proposed range, the new primary standard for particulate could turn out to be helpful in many cases. It depends on the effect of going from total particulates to only inhalable particulate.

"That means some areas which were in compliance with total suspended particulate may not be in compliance with the fine fractions," said Bruce A. Steiner, director of environmental engineering for Armco. "New control programs may have to be implemented.

"That is not the tendency," Mr. Steiner is quick to add. "The tendency is for the PM-10 standard to be more easily met than the total particulate standard. So on the basis of the new primary, health related PM-10 standard, the chances are that more areas will be attaining the standard than was the case in the past.

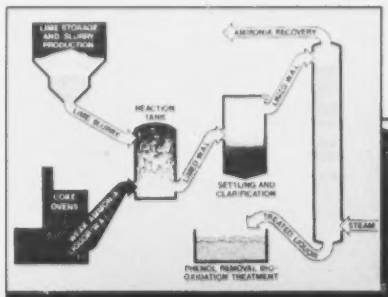
"We have done a substantial amount of monitoring work in the vicinity of most of our major plants to measure those finer fractions. When it comes to the finer fractions, we're generally in pretty good shape. Now, for some other steel companies, that is not the case. They feel they may have a problem with that proposed standard."

The big concern, said Mr. Steiner, is with the proposed welfare standard. "In most areas, that would mean additional controls. That's more the basis for petitioning a review than the PM health standard."

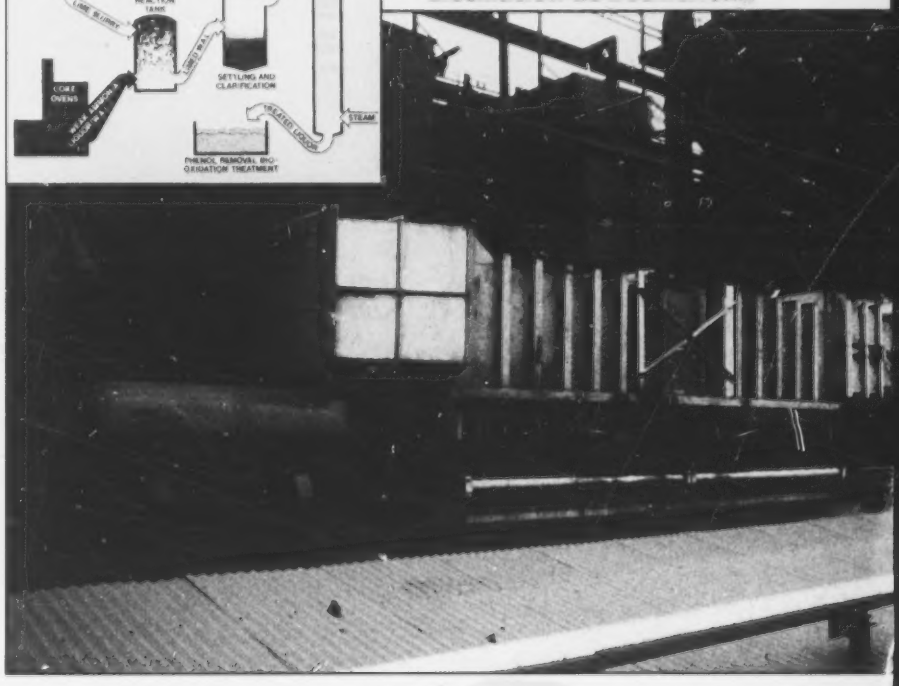
The petition, filed by AISI in the District of Columbia Appeals Court, seeks a review of the criteria used for both particulate and sulfur oxide standards. EPA's criteria document doesn't "accurately reflect the latest scientific knowledge," said AISI.

On another front, the Superfund is a constant source of worry. Designed to clean up contamination that is too old or too big for an individual company to handle, the Superfund is supported by taxes on chemical feedbacks. There is agitation for a larger fund with a larger tax base.

"Far too little has been done to clean up the thousands of sites threatening the health of citizens around the country," said U.S. Rep. Robert Edgar (D., Pa.), a member of the House water resources subcommittee.



A one spot quench car at one of Inland's coke batteries. At left is a diagram showing ammonia distillation at Bethlehem.



Mr. Edgar charged that the Administration was dragging its feet on reauthorization of the Superfund legislation. This isn't due for renewal until 1985, but proponents are anxious to get an expanded version in place ahead of schedule.

The original plan was to provide $1.9 billion for use over five years. Now proposed is $9 billion over the same period. Steel producers feel the huge increase is foolish.

"It's creating a giant sum of money that is going to be misused and squandered in attempts to clean up these hazardous waste sites before the appropriateness of cleaning those sites up has been fully studied," said Bruce Steiner of Armco.

The added Superfund money would come from taxing a lot more industrial materials. Proposals for taxing coke and pig iron have been dropped, but taxes on coal chemicals, electric furnace dust and pickling acid are still being considered.

Steel producers argue that the proposed taxes are unfair. "We haven't really been involved in these abandoned waste dumps for which the Superfund is intended," said Mr. Steiner. "We have relatively large tonnages of relatively low hazard waste."

This combination would mean heavy taxes on materials that do no harm, he indicated. One estimate placed the tax cost of active proposals at $50 million.

Additional Testing

Closely related is the board field of solid waste disposal. One immediate concern is that a more aggressive leaching test will be used to determine hazardous content. The more stringent the test, the more likely it is that minute amounts of contaminant could force special handling of large masses.

A specific ruling by the EPA science advisors has classified coke oven emissions as carcinogenic. "That leads automatically to listing these things as hazardous air pollutants and then development of an emission standard by EPA," said Dr. Anderson.

The standard will apply to all coke batteries, old and new. It could lead to further shrinking of coking capacity.

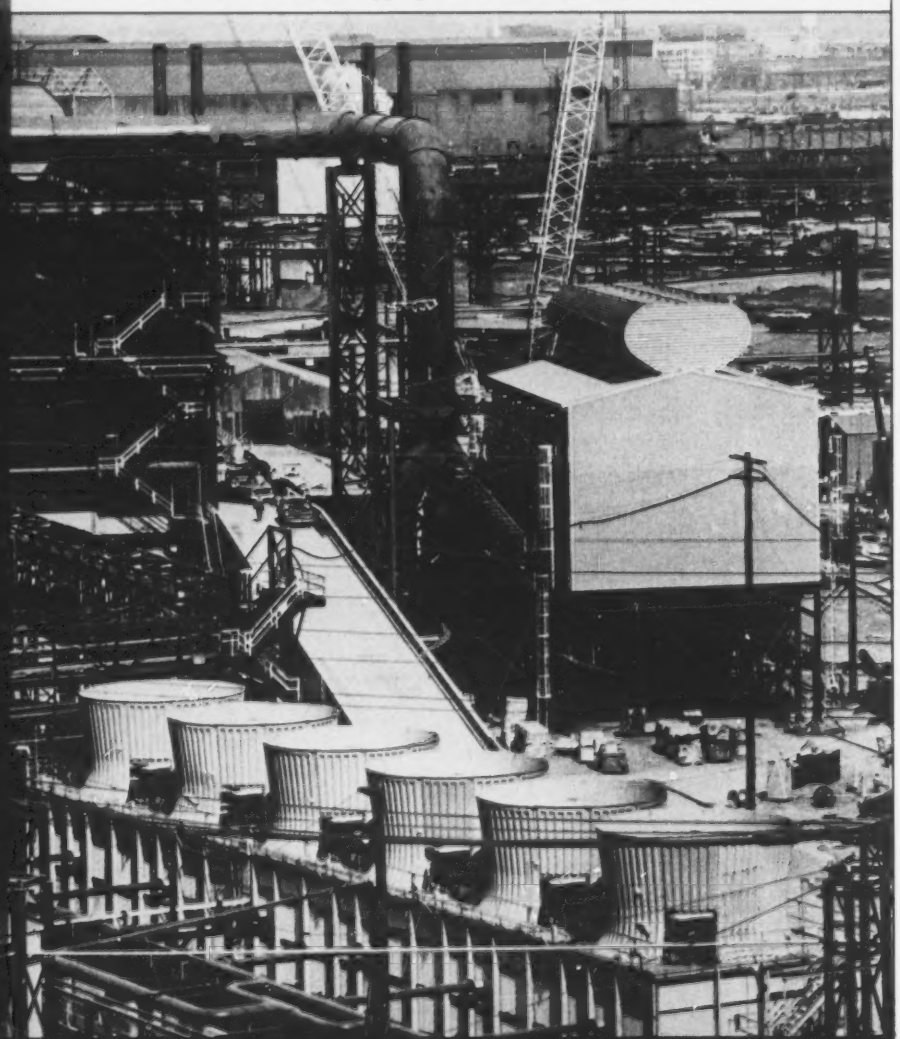
Acid rain continues to generate conflict and confusion. The Senate Environment and Public Works Committee recently reported a bill that calls for reducing sulfur dioxide emissions 10 million tons a year. Before such a sweeping measure is enacted, more study is needed, said Sen. Jennings Randolph (D., W.Va.).

"It is crucial that irreversible commitments not be made early in a sulfur emissions reduction program," said Sen. Randolph.

The National Coal Assn. has been pounding away at what it calls "the Acid Rain Fraud." The association charges distortion and exaggeration by the proponents of the acid rain curbs.

With regard to the general regulatory climate, steel men are philosophical. "I think they've attempted to put peace back into environmental enforcement," said Mr. Masciantonio.

Dr. Anderson said the highly publicized events at EPA meant little to companies. "I think the effect of the Gorsuch administration was overdrawn. We did not find much difference and it's really not much different since then." □

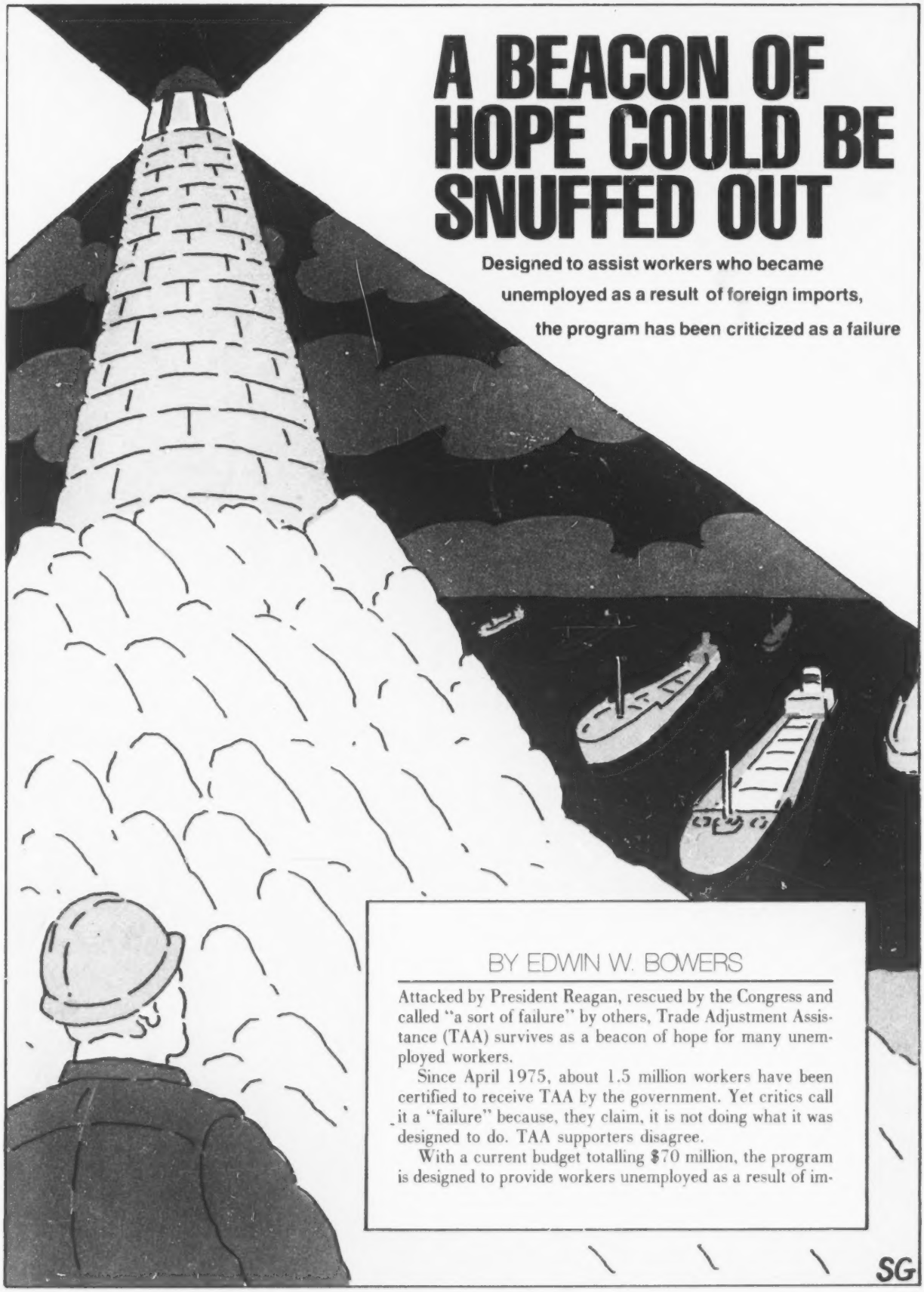


Shown here is Bethlehem's $25 million environmental control installation at its blast furnace at Sparrows Point.

Reprints available while supply lasts. For single copy, circle No. 73 on inquiry card. Additional copies, $1.00 each, for articles up to 8 pages. Longer ones $2.00 each. Please include payment with orders of $10 or less. Quantity reprints available. For information, write IRON AGE, Reader Service, Chilton Way, Radnor, Pa. 19089. Ask for reprint No. 1042.

A BEACON OF HOPE COULD BE SNUFFED OUT

Designed to assist workers who became unemployed as a result of foreign imports, the program has been criticized as a failure



BY EDWIN W. BOWERS

Attacked by President Reagan, rescued by the Congress and called "a sort of failure" by others, Trade Adjustment Assistance (TAA) survives as a beacon of hope for many unemployed workers.

Since April 1975, about 1.5 million workers have been certified to receive TAA by the government. Yet critics call it a "failure" because, they claim, it is not doing what it was designed to do. TAA supporters disagree.

With a current budget totalling $70 million, the program is designed to provide workers unemployed as a result of im-

SG

Certification for TAA by Industry

Industry	Certified Workers*
Automobiles	727,000
Apparel & Textiles	178,000
Steel	159,000
Footwear	79,000
Electronics	62,000
All Others	226,000
TOTAL	1,431,000

*From April 1975 through September 1983. All data from the U.S. Department of Labor, Employment and Training Administration.

ports with three aids. First, additional income over and above unemployment insurance, second, money for training in new career opportunities and, third, financial assistance to re-locate for a job elsewhere in the country.

When first created in 1962, TAA was viewed as a creative approach toward solving the problems of workers displaced by foreign imports. But in late September, 1983, Sen. Bob Dole (R., Kan.) observed: "I have never known a program that promised so much and gave so little as the trade adjustment program."

"TAA failed," Labor Department analyst Steve Charnovitz charged "because its adjustment tools were never used. The most important tool—training—was not used because the state agencies lacked the money to do so."

"I think currently the states are doing a pretty good job," responded Marvin Fooks, Director of Labor's Office of Adjustment Assistance in an interview with *Iron Age*. "After all," he said, "it wasn't until 1981 that we had a line item in the budget for training. In all the previous years we had to fight among half a dozen other national programs to try to get an allocation for training."

In 1962, the U.S. put in place a special compensation program specifically for workers displaced by imports. The 1962 Trade Expansion Act enabled workers injured by trade liberalization to apply to the U.S. Tariff Commission—now the International Trade Commission (ITC)—for adjustment assistance. Then, however, the conditions for help were strict. Workers had to prove: Imports of the product in question were increasing, the increase was caused in "major part" by trade concessions and the major cause of injury to the industry was the import's surge. It was not until seven years later that the first petition for worker assistance was approved.

Liberalization

The 1974 Trade Act liberalized the program in several ways. For example, the criteria used to show import damage were relaxed. No longer was it necessary to prove that an increase in imports was caused by trade concessions. It was sufficient to show that an upsurge in imports contributed "importantly" to a layoff. Also, certification authority was moved from the ITC to the Labor Department. By 1976 almost 143,000 workers were certified, nearly three times the number during the entire 12 previous years.

In 1980 large layoffs in the auto industry were certified as eligible for TAA. The cost of the program exploded without warning. The Fiscal Year, 1980, cost was $1.6 billion, a 533 pct increase over the previous year.

According to Mr. Charnovitz, when President Reagan took office the program was in notable disorder. He

claims benefits were badly delayed, training was rarely provided, the mandatory training requirement in the law was never used, fewer than one percent of the unemployed workers got job search relocation assistance and only a tiny amount of the total TAA spending went for adjustments. "Although benefits were supposed to reach workers soon after layoff the average worker waited 14 months," Mr. Charnovitz said. Mr. Fooks conceded, there have always been "administrative bottlenecks" just because of the nature of the program. "From our vantage point," he said, "there is a slow response time by workers in filing their petitions. Frequently they don't realize their layoff is permanent. And remember the government's greatest periods of activity in this area coincide with the periods of rising unemployment, and that includes the government, so we have been very understaffed."

Mr. Fooks cited statistics. He said in the first eight months of 1975 the government received about 200 petitions for assistance. By 1980 we had certified for assistance about 5,000. "And that doesn't really tell you the whole story, because we also received thousands of requests that were not acceptable but which we still had to process."

"The U.S. is currently the only developed nation which attempts to distinguish import-displaced from other displaced workers in its labor market policy," said University of Massachusetts Prof. Michael Podursky.

Gradually, according to Mr. Charnovitz, the government did move away from providing intended adjustment services and changed the program into a "de facto compensation" program. "Once TAA was considered compensation, it became hard to justify why trade-affected workers deserved more money than other unemployed workers," Mr. Charnovitz said.

President Reagan, addressing the Congress in 1980, asserted that with TAA "we wind up paying greater benefits to those who lose their jobs because of foreign competition than we do to their friends and neighbors who are laid off due to domestic competition. Anyone must agree this in unfair."

Opposition to Program

Mr. Fooks conceded the Administration opposes the program. "At the time TAA came up for budget re-authorization," he said, "the Administration's original plan was to let it lapse, but at the last minute the House of Representatives and the Senate demonstrated their interest in continuing it, so the Administration went along. The White House believes there is too much overlap with unemployment compensation programs, for example.

"Yes, the Administration felt it was unnecessary and recommended it be terminated, the Congress didn't agree," said Mr. Fooks.

Mr. Charnovitz claimed the agencies charged with responsibility for TAA "disapproved" of it. "Although one usually thinks of bureaucrats as being protective of 'their' programs," he said, "TAA never became effective because it ran afoul of the decategorization and decentralization of manpower programs started under the Administration.

"As a result, neither the Labor Department nor the states provided the staff necessary to avoid enormous delays in benefit delivery. In addition, job search and relocation never got off the ground because state governments were politically uninterested in them," Mr. Charnovitz said.

Asserting TAA has not worked, Mr. Charnovitz said, if it had, "it could have, in the context of 'industrial policy' served as a model—and as an experiment "for a broader adjustment program to help all workers affected by technological changes." But, the Labor analyst said, the poor experience with TAA does not encourage belief in our ability to carry out ambitious and complex strategies like industrial policy.

Nevertheless, said Mr. Charnovitz, to call TAA a failure is to misstate the degree to which it has been implemented. "In terms of its adjustment potential, TAA has never really been tried."

"What is required is a more activist policy in which structural change is anticipated and a broad segment of the labor force is assisted in adjustment," said Prof. Podgursky. The Massachusetts scholar uses the term "labor market policy" to describe government's role in assisting displaced workers.

Labor market policy should accelerate the re-employment of displaced workers through various mobility and re-training programs to reduce the social costs, Prof. Podgursky said. Second, it should help to spread the cost of structural change in a more equitable manner, thereby diffusing political pressures for restrictive industrial and trade policy.

Alternative

Mr. Charnovitz proposes a program of reform with three major points. He calls for increased funding to pay for the training of all workers with poor employment prospects. "Although it is hard to predict how much money would be needed, about $85 million would have paid for training one-third of the workers certified in 1983."

He said the relocation program should be removed from local governments because they cannot be expected to give it emphasis. "The Federal government should run relocation or contract it out using a system of reimbursement tied to successful job matches."

Also, he said, claimants receiving Trade Readjustment Allowances (TRA) should be interviewed more frequently to prevent abuse. TRA is a weekly payment lasting for up to one year equal to 70 pct of the previous wage.

Added Prof. Podgursky: "A new apprenticeship Tax Credit should be provided to employers who set up registered apprenticeship programs. Such a tax credit would provide an incentive that state apprenticeship field staff could offer to employers to encourage the development of new apprenticeship programs and the expansion of existing programs.

Employers might receive a basic tax credit tied to the wages paid to workers participating in a registered apprenticeship program and a supplemental credit for hiring certified dislocated workers as apprentices."

Concluded Mr. Charnovitz: "The poor experience with TAA does not encourage belief in our ability to carry out ambitious and complex strategies like industrial policy. In the absence of effective TAA, Congress and the Administration will continue to face no-win trade policy decisions. Either limit foreign imports, which costs the consumer in dollars and choice, or permit increased imports, which creates pockets of unemployment and community disruption." □

Reprints available while supply lasts. For single copy, circle No. 71 on inquiry card. Additional copies, $1.00 each, for articles up to 8 pages. Longer ones $2.00 each. Please include payment with orders of $10 or less. Quantity reprints available. For information, write: IRON AGE, Reader Service, Chilton Way, Radnor, Pa. 19089. Ask for reprint No. 1040.

PRICE & PRODUCTION DATA

(Effective June 18, 1984)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
North East Coast	222	245	254	203
Pittsburgh	247	259	11	32
Youngstown	94	121	301	199
Lake Erie	144	159	147	115
Detroit	149	162	185	134
Chicago	459	503	578	408
Cincinnati	109	109	130	97
St. Louis	83	86	91	74
Southern	205	218	232	137
Western	89	91	90	85
U.S. Production	1,801	1,953	2,116	1,593

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural).....gross-ton 80.50-86.9*
Mesabi, regular-unscreened .....gross-ton $32.53
Mesabi, non-bessemer.....gross-ton $30.03-31.53**

*80.50¢—Pickands Mather as of 1/27/81.
86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.
**Effective 8/1/83.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective June 18, 1984)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1984	To Date 1983
Net tons, in thousands	1,801	1,953	47,664	36,774
Capability Utilization Rate	69.3	75.2	76.7	52.9

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 5/14/84)	27.405	27.405	27.405	26.217
Pig Iron** (Net ton=2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 85.17	$ 85.17	$ 89.50	$ 70.83
No. 2 bundles	$ 56.17	$ 56.83	$ 60.17	$ 46.17

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh..	$ 94.50	$ 94.50	$100.50	$ 72.50
No. 1 steel, Philadelphia ..	80.50	80.50	82.50	68.50
No. 1 steel, Chicago.....	80.50	80.50	85.50	71.50
No. 1 bundles, Detroit	87.50	87.50	92.50	71.50
Low Phos., Youngstown ..	89.50	89.50	98.50	75.50
No. 1 mach'y cast., Pgh...	79.50	79.50	79.50	74.50
No. 1 mach'y cast., Phila .	98.50	98.50	100.50	98.50
No. 1 mach'y cast., Chi..	117.50	117.50	117.50	108.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective June 18, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	81.00	76.00-81.00	9/27/83
Copper (C)	67.00-68.00	68.00-70.00	6/12/84
Lead	28.00-30.00	27.00-30.00	6/13/84
Magnesium Ingot	148.00	143.00	5/25/84
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585 00	555.00	4/29/82
Zinc	52.00-53.00	53.00	5/3/84

ALUMINUM: 99.5%. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$215.00
Beryllium-copper, per lb. cont. Be	$130.00
Beryllium 97% powder 200	$178.00
Cadmium, ton lots	$2.25
Calcium, ton lots, crown	$3.58
Chromium, 99.8%	$3.75
Cobalt, 99%, cathode	$12.50
Gold per troy oz.	$367.90
Indium, dollars per troy oz.	$2.50-$3.60
Iridium, dollars per troy oz.	$600
Magnesium sticks, 10,000 lbs.	$1.97
Mercury, per 76-lb. f.o.b. N.Y.	$322-$330
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$6.85
Nickel oxide sinter at U.S. points of entry	$3.12
Palladium, per troy oz.	$140
Platinum, per troy oz.	$475
Rhodium, per troy oz.	$600.00
Silver ingots, per troy oz.	$8.475
Vanadium	$6.00
Zirconium sponge	$12.00-$17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

June 11—574.37
June 12—574.09
June 13—577.14
June 14—576.54
June 15—575.61

Scrap Prices
Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	64	63½
Yellow brass	59¾	59¾
Red brass	61	61
Comm. bronze	61¼	61¼
Mang. bronze	58	54¼
Free cutting rod ends	60	59

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	59
No. 2 copper wire	49
Light copper	40

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	55
No. 2 copper wire	45
Light copper	36
No. 1 composition	55
No. 1 comp. turnings	53
Hvy. yellow brass solids	38
Hvy. yellow brass turnings	36
Radiators	43

Aluminum

New mixed clips	45	—46
Old sheet	42	—43
Old cast	42	—43
Clean dry borings	43	—44

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	41	—42
Mixed L.C. clips	37	—39
Old sheets and cast	33	—34
Borings and turnings	26	—27
Duraluminum clippings	27	—28

Copper and Brass

No. 1 copper wire	50	—51
No. 2 copper wire	42	—43
Light copper	37	—38
Radiators	36	—37
No. 1 composition	44	—45
No. 1 composition turn'gs	41	—42
Cocks and faucets	31	—32
Clean heavy yellow brass	29	—30
Brass Pipe	30	—31
New soft brass clippings	45	—46

Lead

Heavy soft lead	9	—10
Whole batteries	3	— 4
Type metal	15	—16
Electrotype	13	—14

Nickel

Nickel solids	120	—130
Nickel rod ends	120	—130
Nickel sheets, clips	120	—130
Nickel turnings	60	— 70

Zinc

New zinc clippings	18	— 19
Old diecast zinc	14	— 15

EFFECTIVE JUNE 18, 1984

(Effective June 18, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 94.00 to $ 95.00
No. 2 hvy. melting	84.00 to 85.00
No. 1 dealer bundles	111.00 to 112.00
No. 1 factory bundles (auto)	101.00 to 102.00
No. 2 bundles	59.00 to 60.00
No. 1 busheling	107.00 to 108.00
Machine shop turn	16.00 to 17.00
Shoveling turnings	52.00 to 53.00
Cast iron borings	51.00 to 52.00
Low phos. punchings plate	114.00 to 115.00
Heavy turnings	87.00 to 88.00
No. 1 RR hvy. melting	108.00 to 109.00
Rails 2 ft. and under	122.00 to 123.00
Scrap rails, random lgth	107.00 to 108.00
RR specialties	120.00 to 121.00
No. 1 machinery cast	79.00 to 80.00
Cupola cast	72.00 to 73.00
Heavy breakable cast	30.00 to 31.00
Stainless	
18-8 bundles and solids	580.00 to 590.00
18-8 turnings	480.00 to 490.00

Chicago

No. 1 hvy. melting	$ 80.00 to $ 81.00
No. 2 hvy. melting	76.00 to 77.00
No. 1 dealer bundles	109.00 to 110.00
No. 1 factory bundles (auto)	112.00 to 113.00
No. 2 dealer bundles	59.00 to 60.00
No. 1 busheling	102.00 to 103.00
Shredder scrap	100.00 to 101.00
Machine shop turn	44.00 to 45.00
Mixed bor. and turn	45.00 to 46.00
Shoveling turnings	51.00 to 52.00
Cast iron borings	51.00 to 52.00
Low phos. forge crop	120.00 to 121.00
Low phos. punchings plate ¼ in. and heavier	131.00 to 132.00
Low phos. 2 ft. and under	125.00 to 126.00
No. 1 RR hvy. melting	102.00 to 103.00
Scrap rails, random lgth	99.00 to 100.00
Reroller rails	107.00 to 108.00
Rails, 2 ft. and under	123.00 to 124.00
RR couplers and knuckles	105.00 to 106.00
RR car axles	129.00 to 130.00
No. 1 machinery cast	117.00 to 118.00
Cupola cast	108.00 to 109.00
Stove plate	106.00 to 107.00
Steel car wheels	115.00 to 116.00
Stainless	
18-8 bundles and solids	540.00 to 550.00
18-8 turnings	440.00 to 450.00
430 bundles and solids	130.00 to 135.00
430 turnings	95.00 to 100.00

Philadelphia

No. 1 hvy. melting	$ 79.00 to $ 82.00
No. 2 hvy. melting	69.00 to 72.00
No. 1 dealer bundles	90.00 to 93.00
No. 2 dealer bundles	48.00 to 51.00
No. 1 busheling	90.00 to 93.00
Shredder scrap	94.00 to 97.00
Machine shop turn	29.00 to 32.00
Mixed bor. and turn	29.00 to 32.00
Shoveling turnings	43.00 to 46.00
Low phos. 5 ft. and under	95.00 to 98.00
Low phos. 2 ft. punchings	115.00 to 118.00
Electric furnace bundles	108.00 to 111.00
RR specialties	100.00 to 103.00
Rails, 2 ft. and under	117.00 to 120.00
Cupola cast	70.00 to 73.00
Heavy breakable cast	57.00 to 60.00
No. 1 machinery cast	97.00 to 100.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 60.00 to $ 61.00
No. 2 hvy. melting	57.00 to 58.00
No. 1 dealer bundles	87.00 to 88.00
No. 2 bundles	40.00 to 41.00
No. 1 busheling	86.00 to 87.00
Drop forge flashings	55.00 to 56.00
Machine shop turn	47.00 to 48.00
Mixed borings and turn	26.00 to 27.00
Shoveling turnings	48.00 to 49.00
Cast iron borings	41.00 to 42.00
Heavy breakable cast	38.00 to 39.00
Mixed cupola cast	54.00 to 55.00
Automobile cast	77.00 to 78.00
Stainless	
18-8 bundles and solids	455.00 to 465.00
18-8 turnings	360.00 to 370.00
430 bundles and solids	110.00 to 120.00

Youngstown

No. 1 hvy. melting	$ 78.00 to $ 81.00
No. 2 hvy. melting	59.00 to 62.00
No. 1 dealer bundles	91.00 to 94.00
No. 2 dealer bundles	35.00 to 38.00
Machine shop turn	14.00 to 17.00
Shoveling turnings	19.00 to 22.00
Low phos. plate	88.00 to 91.00
Electric furnace bundles	84.00 to 87.00
Galvanized bundles	79.00 to 82.00

Cleveland

No. 1 hvy. melting	$ 70.00 to $ 73.00
No. 2 hvy. melting	46.00 to 49.00
No. 1 dealer bundles	86.00 to 89.00
No. 1 factory bundles	92.00 to 95.00
No. 2 bundles	28.00 to 31.00
No. 1 busheling	88.00 to 91.00
Machine shop turn	13.00 to 16.00
Mixed bor. and turn	13.00 to 16.00
Shoveling turnings	15.00 to 18.00
Cast iron borings	18.00 to 21.00
Cut structural & plates, 2 ft. and under	113.00 to 116.00
Low phos. punchings plate	113.00 to 116.00
Drop forge flashings	60.00 to 63.00
Foundry steel, 2 ft. & under	70.00 to 75.00
No. 1 RR hvy melting	87.00 to 90.00
Rails, 2 ft. and under	120.00 to 123.00
Rails, 18 in. and under	121.00 to 124.00
Steel axle turnings	67.00 to 70.00
Railroad cast	100.00 to 103.00
No. 1 machinery cast	109.00 to 112.00
Cupola cast	63.00 to 66.00
Stove plate	48.00 to 51.00
Stainless	
18-8 bundles	375.00 to 385.00
18-8 turnings	325.00 to 335.00
430 bundles	80.00 to 85.00

Buffalo

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 71.00 to $ 72.00
No. 2 hvy. melting	59.00 to 60.00
No. 1 busheling	84.00 to 85.00
No. 1 dealer bundles	84.00 to 85.00
No. 2 bundles	39.00 to 40.00
Machine shop turn	14.00 to 15.00
Mixed bor. and turn	13.00 to 14.00
Shoveling turnings	18.00 to 19.00
Cast iron borings	23.00 to 24.00
Low phos. plate	98.00 to 99.00
Structural and plate, 2 ft. and under	104.00 to 105.00
Rails, 2 ft. and under	94.00 to 95.00
Scrap rails, random lgth	74.00 to 75.00
No. 1 machinery cast	79.00 to 80.00
No. 1 cupola cast	59.00 to 60.00

St. Louis

No. 1 hvy. melting	$ 75.00 to $ 76.00
No. 2 hvy. melting	64.00 to 65.00
Foundry steel, 2 ft.	71.00 to 72.00
No. 1 dealer bundles	75.00 to 76.00
No. 2 bundles	61.00 to 62.00
Machine shop turn	20.00 to 21.00
Shoveling turnings	26.00 to 27.00
Cast iron borings	29.00 to 30.00
No. 1 RR hvy. melting	75.00 to 76.00
Rails, random length	77.00 to 78.00
Rails, 18 in. and under	94.00 to 95.00
RR specialties	92.00 to 93.00
Cupola cast	74.00 to 75.00
Heavy breakable cast	53.00 to 54.00
Stove plate	88.00 to 89.00
Cast iron car wheels	54.00 to 55.00
Rerolling rails	87.00 to 88.00
Unstripped motor blocks	59.00 to 60.00

Birmingham

No. 1 heavy melting	$ 79.00 to $ 80.00
No. 2 heavy melting	74.00 to 75.00
No. 1 dealer bundles	79.00 to 80.00
No. 2 bundles	57.00 to 58.00
No. 1 busheling	79.00 to 80.00
Shredder scrap	96.00 to 98.00
Machine shop. turn	37.00 to 38.00
Shoveling turnings	48.00 to 49.00
Cast iron borings	48.00 to 49.00
Electric furnace bundles	70.00 to 71.00
Elec. furnace, 3 ft. & under	75.00 to 76.00
Structural and plate, 2 ft.	103.00 to 104.00
Structural and plate, 4 ft.	94.00 to 95.00
No. 1 RR hvy. melting	94.00 to 95.00
Scrap rails, random lgth.	87.00 to 88.00
Rails, 2 ft. and under	107.00 to 108.00
Angles and splice bars	94.00 to 95.00
No. 1 cupola cast	90.00 to 91.00
Unstripped motor blocks	70.00 to 71.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 67.00 to $ 68.00
No. 2 hvy. melting	61.00 to 62.00
No. 1 dealer bundles	80.00 to 81.00
No. 2 bundles	39.00 to 40.00
Machine shop turn	8.00 to 9.00
Shoveling turnings	10.00 to 11.00
Cast iron borings	25.00 to 26.00
Low phos. 18 in. and under	98.00 to 99.00
Rails, random length	80.00 to 81.00
Rails, 2 ft. and under	95.00 to 96.00
No. 1 cupola cast	67.00 to 68.00
Heavy breakable cast	34.00 to 35.00
Drop broken cast	88.00 to 89.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 50.00 to $ 52.00
No. 2 hvy. melting	41.00 to 43.00
No. 2 dealer bundles	23.00 to 27.00
Mixed bor. and turn	11.00 to 13.00
Machine shop turn	6.00 to 7.00
Shoveling turnings	14.00 to 15.00
Clean cast. chem. borings	35.00 to 36.00
No. 1 machinery cast	89.00 to 90.00
Mixed yard cast	50.00 to 51.00
Heavy breakable cast	10.00 to 12.00
Stainless	
18-8 prepared solids	505.00 to 525.00
18-8 turnings	400.00 to 420.00
430 prepared solids	90.00 to 110.00
410 solids	80.00 to 90.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 65.00 to $ 66.00
No. 2 hvy. melting	55.00 to 56.00
No. 1 dealer bundles	70.00 to 71.00
No. 2 bundles	39.00 to 41.00
No. 1 busheling	75.00 to 76.00
Shredder scrap	73.00 to 75.00
Machine shop turn	14.00 to 16.00
Shoveling turnings	20.00 to 22.00
No. 1 machinery cast	90.00 to 95.00
Mixed cupola cast	48.00 to 50.00
Heavy breakable cast	18.00 to 20.00

San Francisco

No. 1 hvy. melting	$ 45.00 to $ 47.00
No. 2 hvy. melting	39.00 to 41.00
No. 1 dealer bundles	35.00 to 37.00
No. 2 dealer bundles	17.00 to 19.00
Machine shop turn	6.00 to 8.00
Cast iron borings	6.00 to 8.00
No. 1 cupola cast	83.00 to 85.00

Los Angeles

No. 1 hvy. melting	$ 46.00 to $ 48.00
No. 2 hvy. melting	39.00 to 41.00
No. 1 dealer bundles	36.00 to 38.00
No. 2 dealer bundles	17.00 to 19.00
Machine shop turn	10.00 to 12.00
Shoveling turnings	8.00 to 10.00
Cast iron borings	6.00 to 8.00
Elec. furnace, 1 ft. and under (foundry)	77.00 to 79.00
No. 1 cupola cast	77.00 to 79.00

Seattle

No. 1 hvy. melting	$ 71.00 to $ 73.00
No. 2 hvy. melting	60.00 to 62.00
No. 2 bundles	42.00 to 44.00
No. 1 cupola cast	98.00 to 100.00
Mixed yard cast	85.00 to 87.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 90.00
No. 2 heavy melting cut 2 ft. and under	82.00
No. 1 dealer bundles	87.00
No. 2 bundles	48.00
Mixed steel scrap	54.00
Bush. new fact. prep'd.	85.00
Bush. new fact. unprp'd.	75.00
Machine shop turn	45.00
Short steel turn	43.00
Mixed bor. and turn	30.00
Cast scrap	73.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 78.00 to $ 79.00
No. 2 hvy. melting	64.00 to 65.00
No. 2 bundles	42.00 to 43.00
Machine shop turn	16.00 to 17.00
Crushed turnings	39.00 to 40.00
Shredder scrap	80.00 to 81.00
Cut structural plate, 2 ft. and under	103.00 to 105.00
Cut structural plate, 5 ft. and under	92.00 to 94.00
Unstripped motor blocks	60.00 to 61.00
Cupola cast	80.00 to 81.00

PRODUCER KEY
With Principal Offices

A4 American Cladmetals Co., Carnegie, Pa.
A7 Armco Inc., Middletown, Ohio
A8 Atlantic Steel Co., Atlanta, Ga.
A11 Atlantic Wire Co., Branford, Conn.

B1 Baron Drawn Steel Corp., Toledo, Ohio
B3 Bethlehem Steel Corp., Bethlehem, Pa.
B4 Blair Strip Steel Co., New Castle, Pa.
B5 Bliss & Laughlin Steel Co., Harvey, Ill.

C1 Calstrip Corp., Los Angeles
C6 CF&I Steel Corp., Pueblo, Colo.
C10 Copperweld Steel Co., Warren, Ohio
C11 Crucible Divisions, Colt Industries, Pittsburgh, Pa.
C15 G. O. Carlson, Inc., Thorndale, Pa.
C16 Connors Steel Co., Birmingham, Ala.
C20 Calumet Steel Div., Chicago Heights, Ill.
C21 Cumberland Steel Co., Cumberland, Md.

D1 Detroit Strip Div., Cyclops Corp.
D2 Driver Wilbor B., Co., Newark, N. J.
D3 Driver Harris Co., Harrison, N. J.

E3 Enamel Products & Plating Co., McKeesport, Pa.
E4 Elliot Bros. Steel Co., New Castle, Pa.

F1 Firth Sterling, Inc., McKeesport, Pa.

G2 Granite City Steel Co., Granite City, Ill.
G3 Great Lakes Steel Division, National Steel Corp., Ecorse, Mich.
G4 Greer Steel Co., Dover, O.
G5 Green River Steel Corp., Owensboro, Ky.
G6 Gibraltar Steel Corp., Buffalo, N. Y.
G7 Georgetown Steel Corp., Georgetown, S. C.
G8 Guterl Special Steel Corp.

H1 Hercules Drawn Steel Corp., Livonia, Mich.

I2 Ingersoll Steel Div., New Castle, Ind.
I3 Inland Steel Co., Chicago, Ill.
I4 Interlake Steel Corp., Chicago

J2 Jessop Steel Corp., Washington, Pa.
J3 Jones & Laughlin Steel Corp., Pittsburgh
J4 Joslyn Mfg. & Supply Co., Chicago
J5 Judson Steel Corp., Emeryville, Calif.

K2 Keystone Consolidated Industries, Inc.
K3 Kentucky Electric Steel Co., Ashland, Kentucky
K5 Kemco Div., Foote Mineral Co., Keokuk, Iowa

L2 La Salle Steel Co., Chicago
L3 Lone Star Steel Co., Dallas
L4 Lukens Steel Co., Coatesville, Pa.
L5 Litho-Strip Corp., Chicago

M2 McLouth Steel Products Corp.
M4 Mid States Steel & Wire Co., Crawfordsville, Ind.
M8 Mill Strip Products Div., National Steel Service Center, National Steel Corp.
M9 Moltrup Steel Products Co., Beaver Falls, Pa.
M11 Midwest Steel Div., National Steel Corp., Portage, Ind.

N1 Northeast Precision Steel Co., Boston, Mass.
N4 Northwestern Steel & Wire Co., Sterling, Ill.
N6 Northwest Steel Rolling Mills, Seattle, Wash.
N9 Nelsen Steel & Wire Co., Chicago, Ill.
N10 North Star Steel Co., Saint Paul, Minnesota

O2 Oregon Steel Mills, Portland, Ore.

P2 Phoenix Steel Corp., Claymont, Del.
P9 Pacific States Steel Co., Niles, Cal
P14 Pacific Tube Co., Los Angeles
P15 Philadelphia Steel and Wire Corp., Phila.

R3 Republic Steel Corp., Cleveland
R4 Ramco Steel Co., Buffalo, N. Y.
R5 Roblin Steel Corp., Inc., North Tonawanda, N. Y.
R6 Rodney Metals, Inc., New Bedford, Mass.
R7 Rome Strip Steel Co., Rome, N. Y.

S1 Sharon Steel Corp., Sharon, Pa.
S7 Stanley Works, New Britain, Conn.
S8 Superior Drawn Steel Co., Monaca, Pa.
S10 Seneca Steel Service, Buffalo, N. Y.
S16 Southern Precision Steel Co., Gulfport, Miss.

T4 Thomas Steel Strip Co., Warren, O.
T5 Timken Company, Steel Division, Canton, O.
T7 Texas Steel Co., Fort Worth, Tex.
T9 Triumph Electro Corp., Chicago, Ill.
T10 Tennessee Forging Steel Corp., Harriman, Tenn.
T11 Teledyne Columbia-Summerill, Carnegie, Pa.

U1 United States Steel Corp., Pittsburgh, Pa.

W3 Weirton Steel Corp., Weirton, West Va.
W5 Wheeling-Pittsburgh Steel Corp.
W7 Wilson Steel & Wire Co., Chicago
W10 Wyckoff Steel Div., Ampco-Pittsburgh Corp., Pittsburgh, Pa.
W14 Whittaker Steel Strip Div., Detroit, Mich.

STEEL SERVICE CENTER PRICES

Price, Dollars per 100 lb

Prices are based on list prices reported to *Iron Age* by a number of metal service centers deemed representative by *Iron Age* and then weighted based in part on the reports received each month. Prices are not intended to reflect the actual transaction prices obtained by any individual metal service center.

Cities*	Sheets			Strip	Plates	Shapes	Bars		Alloy Bars			
City Delivery Charge*	Hot-Rolled (10 gage)	Cold-Rolled (20 gage)	Galvanized (16 gage)	Hot-Rolled Strip	Plates	Standard Structurals	Hot-Rolled (merchant)	Cold Finished	Hot-Rolled 8620 As Rolled	Hot-Rolled 4140 Annealed	Cold-Drawn 8620 As Rolled	Cold-Drawn 4140 Annealed
Atlanta	26.26	33.90	33.70	31.00	25.83	22.67	19.31	31.54	34.34	50.60	69.58	73.19
Baltimore	26.28	30.72	37.59	36.83	33.68	28.80	22.05	37.10	57.45	64.70	71.71	77.05
Birmingham	24.03	31.90	32.34	30.92	25.55	23.01	19.58	29.68	49.31	58.90	68.10	74.43
Boston	32.76	37.74	42.52	45.84	35.34	30.06	22.24	38.66	47.33	51.92	59.88	65.00
Buffalo	29.86	34.53	41.01	38.75	33.76	27.29	19.47	35.74	42.73	48.21	54.88	61.76
Chicago	28.94	34.49	37.97	34.66	25.87	23.72	17.70	32.28	36.87	41.47	48.10	53.18
Cincinnati	27.68	33.79	36.41	30.60	24.04	23.97	17.90	32.47	36.40	40.83	46.27	51.76
Cleveland	27.83	33.73	37.18	36.74	27.26	27.25	18.81	36.34	40.46	44.35	48.47	55.33
Denver	33.68	38.11	40.59	36.10	34.69	28.21	21.10	44.31	50.89	59.53	67.39	75.21
Detroit	28.28	34.80	37.86	31.69	26.63	27.74	15.96	32.63	36.47	40.91	46.42	54.09
Houston	30.43	32.95	38.93	40.82	29.00	27.96	24.02	41.29	49.03	57.20	64.25	71.38
Kansas City	30.80	36.08	40.00	37.77	28.03	28.27	19.72	33.98	42.59	45.72	52.90	60.26
Los Angeles	28.51	34.50	38.37	41.32	34.21	33.35	24.34	40.22	52.74	60.63	67.36	74.03
Memphis	25.34	33.05	34.52	33.57	27.06	28.48	22.33	34.94	36.78	49.96	59.80	69.44
Milwaukee	29.35	34.89	37.85	32.28	25.03	23.90	17.58	32.83	37.09	41.82	46.73	53.60
New York	30.89	37.51	42.55	40.22	34.62	27.21	21.06	41.14	46.66	50.94	61.12	67.29
Philadelphia	29.76	34.88	40.92	44.88	33.39	28.75	20.85	39.37	46.84	53.80	65.77	72.06
Pittsburgh	33.67	39.53	43.78	34.29	37.60	29.92	21.29	30.60	43.01	49.15	55.93	63.28
Portland	28.96	32.08	38.73	36.93	32.88	34.78	27.87	44.85	49.78	57.74	70.44	....
San Francisco	28.41	33.00	38.86	40.69	36.05	31.65	25.96	41.80	53.25	61.50	71.06	76.09
Seattle	24.06	32.19	36.23	34.23	24.23	27.32	25.75	39.45	52.66	65.10	73.74	78.35
Spokane	21.21	30.42	35.65	38.02	35.00	33.77	21.97	43.01	43.20	47.52	....	58.32
St. Louis	29.11	34.60	37.31	34.14	26.19	23.48	18.40	33.76	37.79	42.74	49.38	53.69
St. Paul	28.18	32.65	35.91	37.69	26.91	24.27	17.70	33.96	36.81	41.49	46.69	52.95

Base Quantities. All HR products may be combined for quantity. Hot-rolled sheet, 10 ga x 36 x 96—120; Cold-rolled sheet, 20 ga x 36 x 120; Galv. sheet—16 ga x 36—120; Hot-rolled strip—⅛" x 1"; Plate ¼" x 84/; Shapes —I-Beams 6 x 12.5; Hot-rolled bar—Rounds ¾-2 15/16; Cold finished bar—C 1018—1" rounds; Alloy bar—Hot-rolled 8620—1¾" round; Cold drawn—1" round; Hot-rolled 4140—1⅝" round; Cold drawn—1" round. Check local supplier for additions or deductions from base.

*Prices at all points include metropolitan delivery charges.

Codes identify Producers listed in the Key on page 72. (Prices quoted are mill base prices in cents per pound unless otherwise noted and do not reflect extras or surcharges.) N.A.=Not available.

Billets, Blooms, Slabs

(Dollars per net ton)

Carbon Rerolling, Midwest
W5 $366.00
N4 $366.00
West
C6 $346.00
Carbon Forging, East
B3(3), C10, U1 $453.00
R3 $453.00
Midwest
R3, U1, W5 $453.00
S1 $420.00
C10 $453.00
K2 $453.00
W5 $453.00
West
B3(2) $463.00
C6 $453.00
South
A7 $453.00
Alloy, East
R3, C10 $492.00
B3 $492.00
Midwest
W8, W5, C10 $492.00
U1 $492.00
R3 $492.00
S1 $459.00
West
B3 $502.00
C6 $469.00
South
A7 $492.00

Piling Sheet Steel

(cents per lb)

Midwest
U1 26.45

Structurals

Carbon, East
B3(2) 23.90
U1, J3 23.90
Midwest
A7 24.15
C20 22.90
W8 22.90
I3, T10, U1, N4 23.90
West
C6 25.10
U1 24.40
B3(2) 21.65
South
C16, U1 23.90
T10 22.90
A8 Cmp*
High-Strength, Low Alloy, East
B3(2) 23.90
U1, J3 23.90
Midwest
N4 23.90
W8 24.15
U1 23.90
I3 23.90
West
U1, A7 24.40
B3(2) 21.65
South
U1, C16 23.90
Wide Flange, Carbon, East
B3 23.90
U1, A7, J3 23.90
Midwest
U1 23.90
N4 23.90
I3 23.90
West
U1 24.40
C6 24.15
South
A7 24.15

Strip

Hot-Rolled, Carbon, Cut II Edge—all widths, East
U1, B3 23.75
J3 22.05
Midwest
A7, D1 22.05
I4 22.85
J3, D1 22.05
W3 22.05
N4 22.55
W5, S1 23.75
U1, B3 23.75
G2, I3, M2, R3, G3 22.05
West
B3 26.55
South
R3 22.05
Cold-Rolled, Carbon Max. 25%, East
E4 29.75
S10 29.60
P15 24.80
U1 38.30
B4 36.60
G6 36.175
Midwest
I4 38.30
W14 32.80
S1, J4 34.05
S1 37.05
High-Strength, Hot-Rolled, Low Alloy, Cut Edge & Mill Edge—all widths, (plus extras)*
Midwest
M2, G3, R3, W3, J3, G2, I3 22.05
A7 22.05
S1 23.75
South
R3 22.05
High-Strength, Cold-Rolled, Low Alloy, Mill Edge
Midwest
S1 37.05
Alloy, Hot-Rolled, Midwest (plus extras)*
S1 24.60
I4 25.20
Alloy, Cold-Rolled, East
C11, E4, M8 43.35
B4 47.25
P15 32.10
Midwest
I4 44.30
S1 42.30

Sheets

Hot-Rolled, Carbon (18 Ga & Hvyr), East
B3 23.75
J3 22.05
U1 23.75
Midwest
A7, G2, G3, I3, M2, R3, W3 22.05
D1 22.05
J3 22.05
I4 22.45
U1, W5, S1, B3 23.75
West
U1 24.25
South
R3 22.05
Cold-Rolled, East, Class I
B3(2) 28.15
J3 26.15
U1 28.15
Midwest
I3, G3, R3, M2 26.15
G2, W3, M11 26.15
I4 22.00
J3, A7 26.15
D1 26.15
U1, W5, S1, B3 28.15
West
U1 28.65
South
R3 24.65
Galvanized (hot-dipped), East
B3(2) 30.30
U1 30.30
Midwest
J3, D1 28.00
I3 28.00
A7, R3, Y1 28.00
G2, W3, M11 28.00
U1, W5, S1 30.30
West
U1 30.80
South
R3 28.00
Enameling, Midwest
U1, S1 29.65
A7, I3, J3 27.65
Long-Terne, Midwest
W5 31.65
U1 31.65
R3, A7 29.35
†Actual weight basis

Wire Rod

East
B3(2) 22.35
U1 22.35
Midwest
N4 22.35
U1, K2 22.35
West
A7 22.00
C6 21.45
South
G7 22.35

Tinplate

Electrolytic Tinplate
Single Reduced (70 lb)

East	per base box
J3	$26.29
U1,	27.74
B3	26.32
Midwest	
U1	$27.74
J3	26.29
M11	26.29
W3	26.29
W5	26.29
West	
U1	$28.24
South	
U1	$27.74

Double Reduced (55 lb)**
Midwest
M11 $21.49
J3 21.49
U1 22.37
W3 21.49
W5 21.49
West
U1 $22.87
South
U1 $22.37

Black Plate
Single Reduced (75 lb)*
East
B3 $23.83
Midwest
J3 $24.01
M11 24.01
I3, W5 24.01
W3 24.01
U1 25.26
West
U1 $25.26
Double Reduced (55 lb)
East
B3 $19.70
Midwest
M11 $18.93
W5 18.93
J3 18.93
W3 18.93
W5 18.93
U1 19.70
West
U1 $19.70
South
U1 $19.70

*70 lb—base weight extra 45¢
**50 lb—base weight extra $1.40

Bars

Carbon Steel, Hot-Rolled
(Special quality)
East
R3, K3 25.80
R5 25.80
B3(3), J3 25.80
U1, C10 25.80
Midwest
A7, I4 23.95
U1, I3, C20, N4 25.80
R3, T10 25.80
K2 25.80
I3 19.50*
West
B3 25.80
C6 24.45
South
A8 20.65
A7 25.80
C16 25.80
Cold-Finished Carbon, East
A11 22.15
R3 33.75
C21 21.15
J3(4), L2 31.00
C2 23.025
M8, W10, T11, S8 31.00
N1 24.475
R4 33.25
B4 33.25
M1 23.025
B4, C10 31.00
Midwest
B5, W10, Y1, W8, R3, M9 33.25
J3 31.00
B1 33.45
L2 30.75
N9 31.00
P3 19.85+CMS
W14 22.20
J3(3) 31.00
J3 31.00
West
B5 34.90
R3 37.15
South
B5 32.85
J3 34.00
C16 24.40
J3 31.95
Alloy, Hot-Rolled, East
B3(2), R5, K3, C10, U1 27.95
R3 27.95
J3 27.95
Midwest
A7, U1, R3 27.95
I3, C10 27.95
I4 26.10
I3 21.00*
West
B3 27.95
B5 18.50
C6 26.60
South
A7 24.85
A8 22.00
Alloy, Cold Drawn, East
L2 35.20
R3, N1, C2 37.90
M1 28.025
R4 37.10
A11 30.50
J3, W10, L2 34.85
T11, S8 34.85
C10 34.85
J3(2) 34.25
Midwest
R3, C10 37.35
C2 28.275
J3, W10 34.85
P3 22.75
B1 37.30
N9 34.85
L2 34.65
B5 37.10
J3 36.00
J3 34.85
M9 37.10
West
R3 40.75
South
J3 35.85
C16 28.00

Plates

Carbon Steel, East
B3(2), U1 25.75
L4 25.75
P2 25.75
J3 26.75
Midwest
B3, R3, S1 25.75
I3 24.25
J3, A7 22.80
U1, I4 25.75
R3 26.75
West
A7, C6 24.25
U1, B3 25.75
O2 23.00
South
R3 25.75
A7 25.75
U1 25.75
Alloy, East
B3, J3 33.55
U1, L4 33.55
P2 33.55
J3 34.55
Midwest
B3 33.55
G2, G3 33.55
I4, U1 33.55
West
B3 32.05
O2 31.00
South
A7 27.55
U1 33.55

Wire

Carbon Steel Wire, East
B3(2) 27.10
U1 27.70
A11 22.15
Midwest
U1 27.70
A7, R3 24.60
N4, W7 27.40
K2 24.20
South
A8 22.85
West
A7 25.95
C6 24.95

PRICES ON AN EVEN KEEL IN MAY

For the second consecutive month producer prices were unchanged, an indication to some observers that the economy is not overheating.

"We're not going to have a significant acceleration in inflation this year," predicted economist Donald Ratajczak of Georgia State University. "To be able to say that in the second year of a recovery is important."

The unchanged level in both May and April follows a 6.0 pct rise on an annual basis during the January-March period.

Excluding food prices, the producer price index rose only 0.3 pct in May, about the same in the previous three months, the Labor Department said.

The index for capital equipment, which makes up about 22.2 pct of the government's producer price index, moved up 0.2 pct in May, after rising 0.3 pct in both March and April.

The rate of increase for the producer price index for January through May when figured yearly is 3.5 pct, well below the 5-6 pct range widely forecast for this year.

Increases were registered for heavy motor trucks, agricultural, textile and woodworking machinery and fans and blowers. Prices for metal-forming machine tools rose 0.5 pct while those for metal-cutting machine tools dropped 0.1 pct.

Lower prices for copper, precious metals, lead and flat glass were primarily responsible for a 0.5 pct decline in the index for durable manufacturing materials, the sharpest drop in more than a year. Increases for steel mill products and cement, however, partly counteracted those declines.

The White House said the producer price figures coupled with the small—0.4 pct—rise in industrial production in May, provide "a double shot of confidence that the economy is not overheating. Inflation remains low and industrial production is moderating to sustainable levels."

Latest Month Covered: May 1984

Products	Index Reading For Month (1967 = 100)	Pct Change From Previous Month	Pct Change From Year-Ago Month
Metal Cutting Machine Tools	383.1	− 0.1	+ 1.3
Metal Forming Machine Tools	423.3	+ 0.5	+ 2.0
Agricultural Machinery & Equip.	337.1	+ 0.5	+ 3.3
Construction Machinery & Equip.	357.8	+ 0.1	+ 1.6
Industrial Process Furnace & Ovens	374.2	+ 0.7	+ 3.7
Industrial Material Handling Equip.	287.7	0	+ 1.0
Pumps, Compressors & Allied Equip.	348.3	− 0.3	+ 0.2
Fluid Power Equip. (Dec: 1970 = 100)	257.2	− 0.1	+ 2.0
Mechanical Power Transmission Equip.	323.7	+ 0.2	+ 2.6
Automobiles	221.3	− 0.3	+ 1.9
Motor Trucks—Light	282.4	0	+ 4.6
Motor Trucks—Heavy	334.7	+ 0.1	+ 7.0
Railroad Equipment	361.2	0	+ 3.1
Fabricated Metal Structural Products	310.6	+ 0.4	+ 2.8
Electric Motors	339.8	+ 0.1	+ 4.4
Valves & Fittings (Dec. 1982 = 100)	102.0	+ 0.2	+ 1.2
Ball & Roller Bearings	341.0	+ 0.6	+ 3.0
Cutting Tools & Accessories	277.8	− 0.2	+ 0.8
Heating Equipment	252.5	+ 0.9	+ 4.0
Plumbing Fixtures & Brass Fittings	301.8	+ 0.1	+ 4.4
Metal Containers	348.1	+ 0.8	+ 3.3
Miscellaneous Metal Products	293.1	+ 0.1	+ 4.4

Data based on U.S. Labor Dept.'s Producer Price Index